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TABLE OF CONTENTS

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ORIGINAL ARTICLES.		MISCELLANY.	
Some Medical Aspects of the Training of College Athletes. By D. C. Parmenter, M.D., Boston	45	An Epidemic of Puerperal Septicemia	80
The Acute Chest. By John B. Hawes, 2nd, M.D., Boston....	50	Public Health Work in Japan	81
An Attempt at Psychogenic Interpretation of Some Familiar Mental Disorders. By Martin W. Peck, M.D., Boston.....	52	Diabetic Column	82
Some Conclusions Derived from the Last Five Years' Work at the National Hospital for Speech Disorders. By James Sonnett Greene, M.D., New York.....	57	Ex-Presidents of the Texas Medical Society	82
The Value of Animal Experimentation to the Medical Profession and to the People. By Victor C. Vaughan, M.D., Chicago, Ill.	62	Intelligence Tests on Medical Students.....	82
The Activities of the School Nurse when under Proper Direction. By Hugh Grant Rowell, M.D., New Bedford, Mass.	63	Harvard University Appointments	82
THE MASSACHUSETTS MEDICAL SOCIETY.		Clinic at the Truesdale Hospital	83
Proceedings of the Society	65	Annual Report of the Chelsea Board of Health for 1922.....	83
BOOK REVIEWS.		New and Non-Official Remedies	84
Epidemiology and Public Health. By Victor C. Vaughan, M.D., Henry F. Vaughan, M.D., and George T. Palmer, M.S.....	73	Resumé of Communicable Diseases, May, 1923.....	84
Cunningham's Text Book of Anatomy. Edited by Arthur Robinson, M.D.	73	News Items	86
The Chemistry of Urea. By Emil A. Werner, M.A.....	74	OBITUARIES.	
Applied Psychology for Nurses. By Donald A. Laird.....	74	Judson Worthington Hastings, M.D.	87
New and Non-Official Remedies	74	Albert Novatus Blodgett, M.D.	87
Current Literature Department	75	CORRESPONDENCE.	
EDITORIALS.		The Caduceus. Roy J. Ward	87
The Case Records of the Massachusetts General Hospital....	79	Articles Accepted by the Council on Pharmacy and Chemistry. W. A. Puckner	87
Hygiene	79	The American Medical Association Meeting. E. F. C.	88
The Commonhealth—Biologic Products Number	80	Celebration of the One Hundredth Anniversary of the Medical Society of Geneva. Charles Greene Cumston.....	88
		Acknowledgment of Books for Review	89
		Boston Health Show	89
		Clinical Demonstration at the Peter Bent Brigham Hospital..	90
		Cases Reported to Massachusetts Department of Public Health	90
		Society Meetings	90

Original Articles.

SOME MEDICAL ASPECTS OF THE TRAINING OF COLLEGE ATHLETES.

BY D. C. PARMENTER, M.D., BOSTON.

[Department of Hygiene, Harvard University]

Athletic training has for its object the up-building and maintenance of the physical condition of athletes. Actual fitness for athletic contests is a sort of pinnacle with undertraining on one side and overtraining or staleness on the other. Overtraining or staleness is the bug-a-boo of every experienced trainer. It is a condition often difficult to detect and still more difficult to describe.

I shall endeavor to give some idea of the essential principles of training and in particular some idea of the phenomenon of so-called staleness. Considerable familiarity with the various aspects of training, arising from successive experiences, as a member of a varsity athletic team, then as a coach, and then as a doctor for other varsity athletic teams, furnishes the basis for these impressions and conclusions. It seems better to illustrate general considerations by the use of personal experiences, which, in my case, are largely derived from the University

teams at Harvard. The conditions at Harvard make for emphasis of certain features and the elimination of others. For example, physical examinations eliminate the unfit. There is an abundance of material, and consequently there is no strong temptation to make use of weak-lings.

In considering any phase of such a broad subject as the training of college athletes it is desirable to omit certain technical details. Thus coaching, although closely allied with training, is regarded as one of the special technical details and will not be described. I shall follow as closely as possible the medical point of view in discussion.

There are, of course, marked variations in teams and squads as there are variations in the usual type of individuals who will eventually win places on the team. Isolated individuals will always be exceptions, but training must conform to certain general principles. These principles are gradually being recognized to be of increasing importance and are tending to overshadow more and more some of the earlier ideas of special systems which were supposed to possess some particular and secret merit. Usually the word "training" implies a mysterious rearrangement of diet, of exercise, and of other physical habits, that is supposed to give the devotees of that system some tremendous advantage over their rivals. On analysis it is general-

ly found that the training system is a mixture of tradition and superstition, and of the experience of the individual trainer. Most of the present methods of training do not take into account the scientific knowledge already available as to diet, fatigue, nerve control, etc. Medical science has not taught us everything concerning these things, but the available scientific information is now considerable and should be utilized. Perhaps the main considerations which affect the training of an athlete are: his diet, his sleep, his athletic work, particularly in its relations to the variations in his physical well-being, or condition, and his non-athletic activities. Usually there is much emphasis on a fifth thing, which consists of the things he should not do. This fifth item includes naturally the usual prohibitions with which anyone is familiar.

Modern scientific investigation into various phases of dietetics has shown us that the best diet for the man in training is that which most closely resembles good wholesome home food, and that the training table diet should furnish enough calories, and a proper balance of carbohydrates, fats and proteins. At the college age, the young adult usually needs more proteins than later for purposes of growth. However, as he is engaged in strenuous athletics, he needs fuel to produce the necessary energy, and this fuel is best supplied by carbohydrates. It is generally recognized that the athlete is doing what corresponds to heavy manual labor, and that he needs a diet of the same caloric value that the manual laborer needs.

Obviously maintenance of health and improvement in physical condition requires the avoidance of any form of disease. The necessity for abundant sleep at regular hours needs no comment. The doctor can at the start of every season, eliminate many things which might incapacitate a man later on. In a small way, he is a sort of health officer. In taking care of any group of men herded together for a certain part of the day, various skin infections and general cleanliness have to be considered much as they are in the army. Any case of infectious disease has to be detected early, otherwise the squad may have to be quarantined and prevented from playing.

Taking care of the athlete's physical condition and supervising his work, also involves, according to the sport indulged in, a certain specialized knowledge of minor injuries. Cuts, sprains, strains and bruises are a little different from those sustained in ordinary life. Certain sports have certain types with which one becomes familiar, usually only by experience. It is necessary only to mention the familiar "pulled tendon" of the track athlete, the "baseball fingers," and the "glass arms" in the ball players, the "poop" and the "Charley horse" in the football player, the "muscle cramps" a boy gets playing hockey, the "boils"

and "blisters" which the oarsman often has, together with the basketball player's "sore feet."

Without going into any of the technicalities of treatment of these conditions, the problem with the athlete who has some minor injury is not to get him well enough in moderate time to go about the ordinary everyday tasks, but rather to get him into condition in minimum time to do heavy work and use his body skillfully under both physical and mental strain. This often requires very nice judgment as to what a man can really do. The doctor in these cases frequently has recourse to the artificial aids of massage and the various kinds of physiotherapy. A given injury may heal in moderate time if left alone, but often the time is limited. The injured man may be an important cog in the machinery of a team, but his enthusiasm to return should not begot the doctor's judgment of his actual worth as a competitor. If he plays too soon, he may convert a simple strain into a recurring and incapacitating injury.

The old idea that a star player must be gotten into the game somehow even though covered with bandages, etc., has gradually given place to common-sense, which not only protects such a man from serious harm, but also realizes that a mediocre man who is whole is usually of more value than the damaged star. The youthful enthusiasm of an athlete with the additional urge of college spirit will often tempt the medical man into errors of judgment unless he is very wise and in full control of the situation. It often happens that a man is allowed by a coach, trainer, or captain to continue playing when he would have been stopped immediately by a doctor. With the best intentions in the world a trainer can make a mistake simply through lack of knowledge which the physician possesses. After all, few laymen are qualified to understand thoroughly the possibilities of a given injury. The doctor's word should be law as to whether an injured man can or cannot participate.

The trainer who has had charge of professionals is often seriously handicapped when attempting to deal with college students, whose temperamental make-up is quite different. Furthermore, in contrast to the professional or the semi-professional athlete, students in college have many other interests. They have to maintain academic standards, on account of which a considerable application to books and studies is ordinarily necessary. Social activities may or may not be an important interest. A prominent athlete is reasonably certain to have thrust on him responsibilities as well as honors in the student community. His day is by no means free for athletics. Training is further complicated by the fact that students are not of the same age chronologically, physically, mentally or ner-

vously. Furthermore, the college athlete is often in the adolescent stage, and is growing both physically and mentally, which absorbs energy. The attitude of student athletes is often directed by that somewhat nebulous force—college loyalty or spirit. The remarkable intensity which this sometimes reaches is often reflected in the individuals and therefore in the teams. The burst of inspiration or temporary glory, to which we are all susceptible is, nevertheless, a very different thing from the continuous necessity of getting and keeping a livelihood, as is the case with the professional athlete. The short season of the college team is conducive to the fever heat of striving for this temporary glory. The example of the college baseball season in contrast to the professional ball season illustrates this. The professional baseball season is from April until October, while the college baseball season beginning at the same time ends in June. Individual candidates for college teams come and go rapidly. Each year confronts the college trainer with new problems with regard to individuals. Some graduate, some leave, and some are not allowed by the faculty, or perhaps their family, to participate. In college sport the trainer has to take the material at hand.

Assuming that the athlete is uninjured, and able to work, we are concerned with the amount of work he can do, how easily he becomes fatigued, etc. Before taking up the question of fatigue it seems necessary to point out another feature of college training which differs from training in the ordinary or professional sense. Training to many people and many trainers means muscle-building. It means to them a long conditioning process, during which the muscles must be built up and made supple. With the college athlete this is not necessary or at best only a matter of days. He has his muscles already developed. Due to continual athletic exercise, and "rough housing" with his friends, these muscles are nearly always in condition. The mistake is then often made of going through a long conditioning process which merely fatigues him and starts him along the road to staleness. This time is much better spent in technical instructions and establishing muscle control. This in turn is a question of nerve reaction and most closely allied to the question of fatigue and staleness. In the case of the usual college athlete it is control of his muscles and his mental attitude which need training and not the muscles themselves.

Fatigue is not a phenomenon applying to the muscles alone, and because a man feels tired it by no means follows his muscles are tired. Investigation in the field of physiology has further shown us that fatigue, far from being a purely muscular phenomenon, much more closely concerns the nervous system. At least, it has been shown that so-called fatigued muscle

has continued to contract with artificial stimulation after the nerves have failed to perform this function of stimulation. On this basis it is easier to explain the familiar spectacle of the good athlete going stale. This so-called staleness is generally regarded to be a state of mental or nervous fatigue. The nature of such a state is not yet very well understood. It is only known that it is remedied or cured by the passage of time in which absolute change of scene and tasks and an absolute rest from the particular kind of training that has been in progress before, are very beneficial. Some men go stale more easily than others. They are thought to be more highly organized nervously or to be temperamental.

A brief outline of the various stages of this somewhat mysterious condition, may perhaps be of service. The condition is first and perhaps most usually noticed with respect to the individual rather than the team. In order to judge properly, it is necessary first to know a man thoroughly on and off the field; to know his habits and general disposition, particularly when he is not practising or playing a game of the particular sport over which one has charge. Usually, the first noticeable thing is that the particular man's performance seems to be good, but does not approach his real ability. He usually says that he feels "logy" and is a little inclined to complain that he cannot seem to produce the results he would like. Everything seems to be mechanical, particularly his amusements, and his outside interests. The continual questioning and conversation which he hears from parents, relatives, graduates, and friends, not only bore but irritate him, and he says he doesn't want to hear anything about the particular team of which he is a member.

In the second stage of this condition, the individual loses all joy in his activities, athletic and otherwise. He complains that he tries very hard, but seems to accomplish less than he did two or three weeks previously. He also says that he is worried and distinctly conscious that his athletic performance is going down hill. At this stage he is very apt, if a certain type of man, to complain about the coaching or the amount of work he has to do. He has what approaches ideas of persecution and is full of excuses.

Finally, in what might be designated as the third and last stage of going stale, we find the athlete looking thin, drawn and worried. On the field he makes more or less dogged effort to do the best he can but his poor work is usually at this time quite noticeable. His appetite falls off, and he usually complains of being too tired to sleep, and wants to be let alone and will not see anybody, if he can help it. By this time, there will probably have been a distinct loss of weight which began a number of weeks earlier at the first stage of his troubles.

This stage can be foreseen by careful observation of the weight. Taking a man's weight, and not his report of it, at frequent intervals, is almost an essential.

When any individual member of a team gets stale in any degree, particularly if he be a star performer, it is time to stop and consider the régime which the team as a whole is undergoing. All trainers know that it is quite easy and possible for the whole team to go stale without any one individual becoming really seriously affected. A coach or trainer will first notice this when he finds that his charges are just barely carrying out the daily schedule. It seems difficult for them to absorb anything new in the way of plays or instructions. They do their work, but they have no dash or snap, and one does not find the men indulging in various foolish and childish tricks, that they so often do when the team is really feeling well. During this stage, which may last over a week or two, one finds that the team continually makes mistakes, and most of the mistakes are those which would have been expected a month or so before, but not at this time. Individuals in the team try particularly hard to avoid these mistakes, and it may be deceiving unless one notices that they are not carefree about it. They try too hard and are worried and tense in their anxiety to do everything correctly, and this attitude finally resolves itself into a rather "plugging" type of performance which frequently draws forth much comment and blame from coaches. This kind of comment, however, does no good and as a coach or trainer will often find out too late, that the best thing is for everyone, team, coaches, and trainers included, to stay away from the field for as many days as is feasible.

This process of going stale either by the team or the individual may take apparently only a week or two, but careful observation for nearly a month previous to the time it became really noticeable would probably have shown just what was going to happen. When this staleness does occur, particularly in the individual, it is quite comparable to the short period which we have all experienced in recovering from illness. It may be short or long, according to the severity of the illness. One feels well, and able to do anything but can actually accomplish nothing. There exists a feeling of strength, just before complete recovery, without the strength itself. What is really needed by the trainer, and by the doctor in particular, is perhaps a fairly accurate knowledge of the application of principles of fatigue, etc., as it affects the nervous system, as well as some medical common-sense. This is particularly true of the team unit in team competition, more than of individuals in individual competition, as is the case in track events.

An athlete's susceptibility to staleness is often

increased by the fourth item mentioned previously, or his other activities outside of athletics and academic work. These activities are often more important than usually considered because they produce mental fatigue and worry and thus affect the mental attitude in athletic work.

Experience so far at Harvard, though somewhat limited, has led us to believe that men who go stale easily are after all merely less stable nervously, than their more fortunate and usually more efficient fellows. The fatigue threshold in these men, in progressing from health or fitness to staleness, is certainly much lower than in others and the logical corollary to this, is, of course, that they are functionally less efficient, less able to control their nerves and muscles and are consequently what we are pleased to term less stable nervously. This functional instability is most often manifested by symptoms, as suggested above, which we all have had in the interval between sickness and complete recovery. Oftentimes, a good trainer can pick out such men, or perhaps still more often he can pick out their opposites, to wit, men who will be good competitors, and difficult to disturb in the long grind of training. Yet frequently the trainer is quite unable to explain why he made such choices, even though the final performance of the athletes might prove him to be correct. A man who is not a good competitor under a severe strain should, of course, be recognized and his limitations understood as soon as possible.

On looking up the records of physical examination of such individuals at Harvard, we have come to the conclusion, that there are certain criteria which have to some extent enabled us to pick out such men beforehand. Minor functional disturbances, such as variable pulse, labile blood pressure, albuminuria, functional systolic murmur, poor posture, sometimes but not necessarily coupled with poor physical development, and any tendency to become easily disturbed or nervous have all helped to point out the man, who although physically powerful, intelligent and willing, is not a really satisfactory member of an athletic team. Besides the medical criteria mentioned above, there are data derived from the general attitude and performance, positive as well as negative, which mark the fairly dependable athlete. Without going into details in this respect it would seem that there is a distinct field for the medical man today in the training of college athletes, or at least in sorting the athletic candidates beforehand by means of some sort of functional tests or observations. While this is by no means perfect, it at any rate promises something better than the haphazard guess of the present method. Functional tests cannot perhaps be as definite as intelligence tests, which are used by psychologists with varying success nor can they be as

positive as perhaps the flying tests used in the Aviation Corps of the Army.

Just as the individuals who make up the component parts of a team have their several abilities, temperaments, and effectiveness, so the team has its group characteristics and its problems. After the individuals have been sorted and certain men have been selected for the special training régime, the outstanding problem of training becomes largely a group problem. It may be that a team is made up of an unusually large number of unstable individuals. In forecasting the actual stability of each member of the team, no matter how careful the medical examinations and sorting of candidates, there is always the possibility that several unsuspected unstable individuals will get on the team, but this possibility does not often affect the team as a group. When a group seems to have an undue percentage of such individuals the real difficulty is with the training of the team as a whole.

The most important thing to consider in the handling of the college team is its mental attitude or general nervous equilibrium. These, as was suggested above, are closely allied to the question of fatigue and staleness and in fact all inefficiency of performance. If we accept the idea, as indeed we must, that it is the mental or nervous, and not the physical side of the athlete, which goes stale, we must also consider the quantity and quality of competition in which he indulges, and how nerve-racking the games are, rather than the foot pounds of work he does. The college man more than the professional athlete is affected by competition because, as explained before, of the tremendous college enthusiasm, and the amount of mental work he has to do besides his thought of competition. In addition to this, the age of the college athlete makes him more subject to these impressions. If these experiences of competition are repeated too often, the result is staleness. No matter how easy the game there is always a certain strain in competition which is mental and nervous and is what really tires a man. It is not the actual physical work involved, as there is usually much more in practice than in a game. The man who once goes thoroughly stale becomes physically exhausted, his reserve is used up. The condition is to be avoided also since once a man is thoroughly exhausted in this respect, he is usually of little use for the rest of the season.

The problem of staleness varies somewhat with the sport considered not only in its importance and in its need for careful observation, but also in the preventive and remedial measures. While most athletic sports are considered in connection with the outdoors, (and undoubtedly these are the better kind), many sports are conducted chiefly indoors,—basketball, often hockey, and of course, wrestling,

fencing, etc. Experience has demonstrated, at least to the writer, that men in these indoor athletics tend to grow stale more quickly. Care has to be exercised to make the games less numerous, especially because the tendency of schedules is just the other way. More frequent periods of respite from practice and training table for a few days are needed and the season for a particular sport must be much shorter. Just why this is necessary for the maximum efficiency is difficult to explain. The outstanding fact is that the work is indoors. This may make the sport seem less arduous when in reality it is just as hard as an outdoor sport.

We have seen that general good and improvements may accrue to the training of a team by the application of a few general principles common to all sports. While he may not at first realize it, the medical man in most ways is in the best position to apply these general principles by reason of his long training in just such fundamentals. This does not necessarily mean that every trainer should be a doctor, but he can be assisted very much by the advice of one. In fact, almost any physician is better equipped to train a group of athletes than perhaps the profession realizes.

It is quite natural to ask what benefits the doctor trainer can derive from this sort of work,—benefits to his professional training and practice.

The physician training a group of athletes or supervising their training, is, after all, applying in concentrated form the same principles of treatment which he applies to the tired business executive who is in danger of a breakdown. Or does he apply them? How often has it seemed that the medical practitioner has little to offer to the tired man who is in a state of nerves—in a word—stale, if this patient has no organic defect. Of course, he can tell such a person, to rest, take a vacation, etc., but that is only part of the story. How can such a man keep himself from getting into such a condition or, having done so once, how is he to prevent doing so again? Such a man is doing exhausting work, chiefly mental under heavy strain, and must continue to do so. The general competition of daily life demands it, if a man is to be efficient and effective.

It is worth while emphasizing here one very important feature which is usually not realized. Usually such a man needs to be conditioned in the full sense of the word. His flabby muscles need to be made solid and supple, and they need also to be developed. That is a process which should occupy months and not weeks and should be started very slowly and carefully. Very often the tired business man rushes to a gymnasium and exercises violently. He only uses up his small reserve and simply becomes more fatigued. What such a man may have needed is to ride to the office in a taxi every morning

and do a little very light exercise for a month or more. He may need rest rather than strenuous exercise, or at least rest before beginning such exercise.

The tired business man often needs, more than anything else, some real recreation. Strenuous exercise, practised as it is often done, simply means more work. The college athlete has his work, exercise, and sleep fairly well balanced, and his exercise is usually recreation. If the business man whose work is limited only by his ability cannot find recreation in some form of exercise, then he must look elsewhere for it. Often some form of recreation is primarily more necessary than exercise and must be developed first. A man's natural tastes may not combine the two, but he who does this, is fortunate. Just as a proper diet is well balanced, so must a man's physical and mental activity be balanced—in this latter case, between sleep, work and recreation.

If the sort of understanding of these conditions which is bound to follow the handling of a group of athletes for even one season were more prevalent, there would be fewer so-called breakdowns, before the onset of which the physician often feels helpless.

THE ACUTE CHEST.

BY JOHN B. HAWES, 2ND, M.D., BOSTON.

In considering this interesting subject of acute conditions as they affect the chest I have, to a large extent, omitted acute diseases of the heart and will confine myself solely to the acute conditions of the lungs and pleurae. It is manifest, of course, that my discussion of each of these subjects must be brief.

PNEUMONIA.

"When in doubt, consider pneumonia." "Always look upon pneumonia as a possibility until it is definitely ruled out." If we all remembered these two maxims when called upon to diagnose acute conditions of the chest we would save ourselves and our patients much worry and embarrassment. In regard to the diagnosis of pneumonia, it is well to remember that since the influenza of 1918 the type case of text-book lobar pneumonia, with its acute onset and its crisis at the fifth, seventh or ninth day, is conspicuous by its absence. The atypical is the rule rather than the exception.

As to treatment, despite the fact that serums for certain types of pneumonia do some good older methods of treatment are still our main reliance. Of these, a good nurse endowed with cheerfulness and common sense comes first, and after this a sunny, airy room with an open fire; fresh air but not cold air; digitalis before it is evident that the heart is failing, and morphia

in small doses, enough to promote rest and tranquillity, if not sleep, embody all the essentials in the treatment of pneumonia. Dr. Frederick C. Shattuck invariably emphasized to his students a fact as approximately true now as it was then, namely, that of every 100 patients with pneumonia 40 or more were bound to get well regardless of treatment of any kind, 40 or less would die no matter how skillful medical and nursing help were given, leaving 20 whose ultimate outcome would be influenced for better or worse according to whether the treatment was good or bad.

ACUTE TRACHEITIS AND BRONCHITIS.

These conditions are usually secondary to an acute infection higher up. Each is a self-limited disease which is bound to get well anyway, except occasionally in elderly persons and in young infants. Each will get well far quicker and far more comfortably, however, if the proper things are done. Of these, first comes rest in bed; second, the drinking of large amounts of water, at least 10-12 glasses in every 24 hours; third, cleaning out of intestinal tract; and, fourth, making the patient as comfortable as possible. If, when we or our patients came down with an acute cold, no matter where located, we went to bed and stayed in bed we would be vastly better off.

In regard to making the patient comfortable, this is not always such an easy task, but I feel that physicians are far too apt to prescribe heroin, codeia, Dover's powders and the like rather than first trying the simpler remedies. Bromides, particularly of the effervescent variety, will often reduce coughing to a minimum; veronal or some other sedative will promote sleep; and aspirin, a harmless preparation which does not depress the heart, will relieve aches and pains. Oil sprays, and particularly in tracheitis, steam inhalations with benzoin, are soothing and are not used as much as they should be. Do not overdo fresh air, especially if the fresh air is accompanied by wind and dust. Air to be fresh need not be cold. If an expectorant is needed, I always use syrup of hydriodic acid.

PLEURISY, WET AND DRY.

Here, again, influenza has upset our preconceived ideas. We were all of us taught, no matter what medical school we attended, that wet pleurisy coming on insidiously was practically always, and a dry pleurisy often, a form of tuberculosis. Since influenza, however, a pleurisy wet or dry, is merely a pleurisy wet or dry. It does not necessarily mean tuberculosis. I rather feel that such a comforting thought as this is apt to be carried to an extreme, and I still am apt to look upon a wet pleurisy as a manifestation of tuberculosis. In dry pleurisy the chief symptom is pain. A tight swathe or an adhesive strapping will best relieve this.

Occasionally, codeia, or even morphia, may be necessary.

I do not believe in indiscriminate use of the needle. An army doctor told me once that he tapped the chest of a certain patient 18 times. I was very sorry for the patient. Do not postpone tapping too long, however, and if possible make it an accurate procedure by use of the fluoroscope or the x-ray. Remind all such patients that they must keep under observation for some months after all acute symptoms have subsided, and that tuberculosis must be considered a factor in their case.

PULMONARY INFARCTION.

I was called upon a few years ago to see a friend of mine, convalescing from a gastroenterostomy for ulcer. His temperature and pulse had been normal for some days, when he was suddenly taken with a very severe pain in the left side of his chest, with a high temperature and pulse, tremendous shock, and the coughing up of bloody mucus and almost clear blood. Within 24 hours a small area of consolidation appeared in the area where the pain was located. This was undoubtedly a case of pulmonary infarction. Fortunately, the embolus that caused it was not a septic one, so that the patient ran a normal course and recovered. For a few days, however, he was very seriously sick.

Again, I was suddenly called upon to see an old gentleman of 70 who had been under my care for arterio-sclerosis and circulatory disorders for some time, who shortly before had raised a very considerable amount of bright blood, at least 4-5 oz. Signs of consolidation were not so marked, being masked by emphysema. This, however, was probably likewise a case of pulmonary infarction. The treatment of such conditions is purely expectant, and the outlook in any case a serious one.

PNEUMOTHORAX.

There is probably no acute condition of the chest, with the possible exception of pulmonary infarction, which is so terrifying and which causes such great shock as pneumothorax. One patient of mine, to my certain knowledge, has had a series of such unpleasant incidents first on the right side of the chest, where the symptoms simulated acute gall-stone colic, for which he came very near being operated, and again on the left side, with the symptoms resembling angina pectoris, for which he was seen by two of our best specialists along that line. Fortunately for him, he has never had an attack on both sides at once. I feel certain that the background of this young man's condition is tuberculosis, but when I last saw him recently he was perfectly well in every way, and is now running an orange plantation in Florida. In two other instances the pneumothorax was a com-

plication, and occurred in the course of lobar pneumonia. Each patient was doing perfectly well when taken with intense pain, shock, shortness of breath, accompanied by very marked cyanosis. Signs of a pneumothorax became evident and gradually disappeared.

Where the pneumothorax occurs spontaneously, tuberculosis should be suspected in every instance, and the patient kept under careful, prolonged observation.

INFLUENZA.

There is little need of my more than mentioning this subject. I would again emphasize here, however, as I did in the case of ordinary colds, that no matter how slight the symptoms may be, rest in bed and rest for a longer period than seems necessary, will do more good than anything else. If the symptoms are severe, I generally take it for granted that there is a patch of broncho-pneumonia, whether or not I am able to demonstrate it to my own satisfaction. Post-influenzal depression and post-influenzal bronchitis, in my opinion, are very definite, clinical entities. If we wish to avoid them we should persuade our patients to take it easy for a long time, and, if possible, to go to a warmer and pleasanter climate after any acute attack. Serums are of little avail, and drugs are of use simply to make the patient comfortable. I do not believe in the cold air treatment of these acute infections of the respiratory tract.

ABSCESS.

With the help of the x-ray we are able to make the diagnosis of a lung abscess far earlier than formerly was the case, so that it now might be classed as among the acute conditions of the chest. Our New England climate, which enables our nose and throat specialists to reap so rich a harvest, necessitating countless tonsillectomies and countless other nose and throat operations, is thus indirectly responsible for the great majority of lung abscesses. If after any nose and throat operation, whether a general or a local anesthetic were used, the patient begins to cough and to run a fever, a lung abscess should be at least suspected, and an x-ray of the chest taken. A great many such abscesses recover spontaneously, but in many other instances surgical treatment, which is simple enough in trained hands if done early, but difficult and dangerous if put off too long, may be necessary. Whenever possible I prefer to have every case of lung abscess seen by a surgeon who has made a specialty of surgery of the lung, and to let him decide whether or not to operate.

ACUTE SECONDARY PULMONARY INFECTIONS.

This group comprises conditions which before influenza I rarely saw, but which I am now seeing frequently. These patients almost invari-

ably give a history of having had a bad cold which had not entirely cleared up, but which left them with a cough and usually some sputum. Aside from the coughing and raising, they are apt to feel very well indeed. On examination, râles of all varieties, generally coarse and sticky, are found at one base and sometimes at both bases behind. In addition there is apt to be some dullness, but no other voice or breath changes.

This is a group of what I call secondary pulmonary infections, because I believe them nearly always to be secondary to some infection higher up. They might be called acute or sub-acute pneumonitis or pleuritis.

The best treatment for these patients is to send them away for a radical change of climate and surroundings. In case this cannot be done, and in the majority of instances it cannot be done, hydriodic acid and large amounts of water will help. Postural drainage, instructing the patient to take a hot drink the first thing in the morning and the last thing at night on going to bed, and deliberately to start coughing, lying flat in bed with the head hanging over the side of the bed, will further assist in clearing out the lung. I have often used bromides to check the cough, telling the patient that coughing is largely a matter of habit, which can be reduced to a great extent if they are willing to use their will power to do this.

PULMONARY HEMORRHAGE, TUBERCULOUS.

Pulmonary hemorrhage is practically the only manifestation of tuberculosis which comes among the acute conditions of the chest. I have often thought that the important thing in the treatment of a pulmonary hemorrhage is reassuring the patient, and particularly his family. The percentage of people actually dying of hemorrhage, except for those in the advanced and active stages of the disease, is remarkably small.

It would be well to bear in mind the two types of hemorrhage. One, a mechanical hemorrhage, occurs in chronic, inactive tuberculosis, especially where there is large amounts of scar tissue, and is due to the tearing off of an adhesion. During such winters as the last, where many men and women have undertaken unusual physical exercise, such as shovelling snow and coal, such hemorrhages have been particularly common. They frequently occur in women at or around the menstrual period.

The other type, and the more serious one, comes in the course of active and progressive pulmonary tuberculosis. I do not often use morphia, but prefer to quiet the patient in other ways, if possible. Atropine in large doses up to 1/50 of a grain is the only drug I should use in such cases. In no other emergency is the personality of the physician of more importance than in such cases. An ice-bag to the chest is useful chiefly because it keeps the pa-

tient quiet holding it in place. If possible, I prefer to have the patient propped upright on pillows, rather than lying down. I have been unable to see any reason why patients should not eat practically what they please, as long as the amounts are small, so that the stomach is not unduly distended. Rest in bed is, of course, essential. Pneumothorax treatment, admittedly of great value, is so rarely available as to be out of question.

ASTHMA.

An acute attack of bronchial asthma is terrifying to the extreme to the patient and his friends. The subcutaneous injection of adrenalin chloride will usually bring about a very remarkable change for the better. The important thing, of course, is to treat the underlying cause of the asthma. Morphia is occasionally indicated, but is usually given too often.

Asthma due to the sudden decompensation of a chronic heart likewise comes under the list of the acute conditions of the chest. In such cases the administration of adrenalin chloride will do no good, which fact practically rules out bronchial asthma. In these cases absolute rest, morphia and digitalis subcutaneously are of the greatest help.

AN ATTEMPT AT PSYCHOGENIC INTERPRETATION OF SOME FAMILIAR MENTAL DISORDERS.

BY MARTIN W. PECK, M.D., BOSTON,

Psychopathic Hospital, Boston.

CHARACTERISTIC symptoms of mental disease are false beliefs quite out of keeping with common knowledge and experience, which are maintained in the face of evidence to the contrary that would be wholly convincing to the normal individual. These false beliefs are often concerned with ideas of power and love, or with sense of guilt and dread of disaster. Such ideas on the surface seem quite foreign to normal psychology, but many times on closer acquaintance there may be recognized in them a simple exaggeration or distortion of the instincts, desires, and fears which furnish the driving forces in all mankind.

Psychiatry in the past had scant patience with such a point of view. It chose to look upon mental disorder as a specific disease rather than a special type of attitude and behavior on the part of an individual struggling to obtain satisfaction from life. Delusions were accepted by the medical profession as being more or less accidentally determined. They were considered to be the result of physical changes in the brain, or due to special constitutional tendencies. If one wished to learn about human character and motives, he was forced to consult fiction, poetry, and the drama, rather than psychiatric texts. The work of Freud and his followers has con-

tributed to mental medicine by emphasizing the genetic factors which may be present in the psychological field. According to their teaching, much of mental life goes on below the level of conscious awareness, and in the unconscious depths of the personality powerful and conflicting forces wage silent battle. Mental health and happiness are thought to depend upon a proper balance and harmony in these deeper layers of the psyche, far more than on the influence of outer circumstances. If the problem of mental disorder is approached from this standpoint, it is often possible to see in delusional ideas the results of thwarted hopes, repressed longings, and half-buried fears.

For illustration may be taken the case of a drab little old woman of seventy, observed for a brief period at the Boston Psychopathic Hospital. For some days she maintained an excited vigil on the ward, both interest and fear shown in her expression and utterance. She believed that a group of wealthy Harvard students had become enamored of her, and were circling about the hospital, waiting for opportunity to kidnap her. She heard the signalling horns of their automobiles, and their shouts of encouragement and determination. Is it too much to see in such picture a dramatization of the romantic longings of youth, buried all the years by weight of necessity and convention? The weakening mentality of the senile state finally permitted them to break forth, and find in fantastic delusions a half-painful and half-pleasant satisfaction. In this humdrum old lady, the flame of desire for romance and love had never been quenched, but in the depths of her personality had burned brightly for over half a century. There is pathos as well as humor in the picture.

The following cases are presented more in detail, as material which gives opportunity for speculation concerning psychogenic causation of mental illness. They were all patients at the Boston Psychopathic Hospital and were chosen for illustration on account of the relative simplicity of the mechanisms involved. None of them is in any way unique, and they conform to well-recognized types which can be duplicated on any active mental service. In no case did the distinctly medical history appear to have a bearing on the psychosis. Routine physical examination and laboratory studies were negative for important findings in all.

CASE 1. S. E., a young man of 24, had felt for a month that people on the street were taunting and reviling him, and finally he assaulted a stranger in an effort at retaliation. He was able to give his own history, and the facts were largely corroborated from other sources. He was an only child, living alone with his mother since the death of the father, three years before. He finished the second year of high school and had been employed steadily as a bank clerk. He was always of retiring make-up, but not noticeably seclusive or odd. He associated but little with girls. Sex matters had been difficult for him to manage. He masturbated from the time of puberty and reacted with much conflict over the moral issues. He looked

forward to marriage as a solution of this problem.

About a year before, he had his first love affair and became engaged. He was more uneasy than happy over this situation, and felt his fellow-employees were critical and contemptuous concerning his plans. After a period of a few weeks, he was suddenly obsessed with crude sex pictures. He said, "I had a cold horror come over me; for two days I saw a man's penis right up in front of me." He was shocked and distressed, marriage suddenly "appeared horrible" to him, and he broke his engagement. At the request of his fiancée, he reconsidered his position, but a month later again severed all relationship with her. For several weeks previous to admission, he felt that casual strangers were interfering with him. A man who sat beside him in a movie show, "tried to compel my mind to take in something which was filthy." Men on the street put hands to their mouths or made movements with their tongues when he passed by. He thought he heard insulting remarks: "son of a gun," "there goes that prick," "he is evil, we don't want him." Some time before, he had made application to join the Masons and felt possibly he was being tested. It seemed to him his manliness was in question, and that to prove his worth he must attack and overcome other men. He struggled for some days with his timidity; then, goaded to desperation, made two unprovoked assaults on strangers. This resulted in his arrest, and he was brought to the hospital from the police station, with battered countenance bearing witness to his encounters.

He remained in the hospital a month. At first he improved, discussed matters frankly with the physician, mixed well with others, and was allowed parole. Later he felt the physician was hypnotizing him, he became depressed, and made a suicidal attempt. He was taken home by his mother against advice, but a few weeks later was committed to a State hospital. Report from that institution after two years showed a steady deterioration. He had become listless, apathetic and slovenly; was retarded in speech and action, and continued to have auditory hallucinations and mild persecutory ideas. A diagnosis of dementia praecox was made.

Such a history is characteristic of a large group of patients who spend the major portion of their lives as inmates of hospitals for the insane. Assuming that they differ from normal individuals in something more than an accidental way, can any useful light be thrown on the etiology of their illness and the mechanisms of production? Heredity plays a part, but probably not a dominant one. Physio-chemical studies have in a hundred years added but little to the understanding of the problem. From the psychological standpoint, the doors are, perhaps, wider open to hypothesis and speculation.

The possibility that homosexual tendencies played a part in this man's difficulty makes an attractive theory and finds much evidence in the symptom picture. Assume a strong homosexual inclination, inhibited and repressed by socialized standards. The repression permitted a fairly normal surface, but at the expense of unstable equilibrium in the deeper personality levels. Engagement required an entirely new adjustment to the sex problem. The homosexual tendency strained against the repression and poisoned the normal love attitude. Marriage seemed horrible to him—for two days he saw pictures of male genitalia in front of his

face. He felt degraded before his associates, the engagement was broken. Soon people began to put hands to mouths and move their tongues, interpreted by the patient as vile insults, accusing him of perverted habits. The sense of humiliation was overpowering, and in desperation he strove to assert his manhood by physical violence. According to the same theory, the final deteriorated, broken-spirited state of the patient may represent defeat and compromise, an unwilling subjection to the power of his own homosexuality. In this man's psychosis may be seen a profound tragedy of the soul: Alone and unaided he struggled, like the mythological heroes of old, against the monster which would overpower him.

Of course this hypothesis gives no final answer to the question of causation. What constitutional factors or environmental influences were responsible for the homosexual tendencies, remain obscure. Such interpretation does, however, take a step toward penetration of the mystery of mental disease, and awakens some hope that from it may come aid in prevention and treatment.

There appears to be a marked difference in the manner in which men and women meet the problem of sex, so far as subjective attitude and inner adjustment are concerned. In women, more often than in men, the normal mating instinct is the source of morbid conflict and a factor in mental illness. Few men, however prudish they may be in attitude and ideal, find serious difficulty over the simple realization of their heterosexual interest and inclination. It is the abuse, or latent perversion, of this urge which sometimes gives to them an intolerable sense of unworthiness and degradation. Women, on the other hand, perhaps prudish and over-refined from early training, often feel that any sexual inclinations on their part, however normally directed and well controlled, are essentially vile and unclean. They suffer in a manner corresponding to that of a man who is struggling with some of the tendencies toward perversion. Whether such a distinction stands in relation of cause or effect to the double standard of morality, furnishes interesting food for thought.

Cases 2 and 3 are chosen to illustrate exaggerated and morbid reactions in connection with normal instinctive forces.

CASE 2. H. A., a single woman of 35, was committed on account of an episode of mild excitement resulting from delusions that a business acquaintance was forcing his attentions upon her. In the hospital she was uncommunicative and evasive, and most of the history was obtained from friends. The mother died during the patient's childhood, and after graduating from grammar school, she assumed the former's place in the home, and looked after her father and two brothers. In personality she was reserved and prudish, and had little outside interest or recreation. Her life had been one of single-minded, self-sacrificing service. She nursed one brother until he died of tuberculosis. The second brother was committed

to a hospital for mental disease, after a long period of care at home which had monopolized the attentions of his sister. On the death of her father, four years before admission, she was suddenly thrown upon the world without relatives and with few friends. She worked as saleslady in department stores, but with steadily decreasing efficiency. She boarded with strangers and had little social life of any sort. Several weeks before admission she developed ideas that a floorwalker at the store was making advances to her. There were no love passages of any sort, but she felt she could tell of his intentions by the way he looked. She thought other clerks were talking of the affair. On the street-cars people seemed to smile and point her out. She became obsessed with a fear of contracting syphilis, either from the toilet, or from having the floorwalker touch her dress with his hand. She confided these matters to her landlady, and became sleepless, agitated and tearful, but continued her work. The night before admission, she thought a policeman passing the house announced that the floorwalker was dead.

When interviewed by the physician, she was on the defensive and somewhat sarcastic, although occasionally she varied this attitude by being arch and coquettish. Orientation was complete. There was no evidence of special disorder of the thought stream. Her mood was one of superficial geniality, with underlying tension. She maintained the reality of her delusional ideas. After a week, a sudden episode of excitement developed, with marked religious coloring to her utterances. Following this she was mute, resistive, and untidy, and had to be tube-fed for a period of ten days. A month later she improved again, became more tractable and accessible for a time, and said in regard to her delusions about the floorwalker, "If you say he is not dead, I will believe you." For the two months following, she was quiet, smiling and detached, showed no interest in her surroundings, seldom spoke, and was passively resistive to attentions. After five months at the Psychopathic Hospital she was committed to another State hospital. Two years later she was reported to have shown progressive deterioration. She was seclusive, careless of personal appearance, refused to speak or work, and spent the time sitting about the ward in constrained attitudes, with a shawl over her head. A diagnosis of dementia praecox was made, and the prognosis was considered wholly bad.

In an attempt to explain the development of such a psychosis on the psychological level, some such formulation as the following may be employed: This woman's love and interest throughout most of her life had been held focussed on the members of her own family. Her timid and shy nature made it, perhaps, easier for her to follow what seemed the path of duty. Her father in his later years was exacting and childish. Her brothers for long periods needed her solieitous care. We can assume that if rebellious thoughts came to her mind at her self-sacrificing lot, and if desires for wider social and love interests arose, she suppressed them as unworthy; and, driven by a New England conscience, devoted herself all the more rigorously to the tasks before her. When her father died, she was left emotionally stranded. Her new freedom brought its tragedy in the emptiness which it entailed. Then arose within her, at thirty-five, what should have come to the surface at twenty—desires for romance, love, marriage and home. Her standards, conditioned by early training and repressions, made some of these

desires seem shameful. She fought against the realization and drove them from her mind. But they refused to be banished entirely; and when denied expression directly in conscious form, came back in disguise; translated into belief in amorous persecutions by an innocent floorwalker, and a morbid fear of contracting venereal disease in impossible manners. Her reaction to these beliefs was one of apparent resentment and horror; and yet, building on what we know about human nature in general, it is probable that mixed with these emotions was a feeling of satisfaction that some man should have at last manifested an interest in her. By these delusions, therefore, a double purpose was served: (1) The needs for love were gratified in a certain roundabout manner; (2) the patient's self-respect and sense of innocence were protected by the feeling that the love advances were outside her own control, supplemented by the realization of her resentment and disgust in relation to them. In this way can be seen, in such a paranoid system, a crude attempt to make an adaptation to life, a compromise solution brought about by creating a phantasy situation, in which all sides of a devastating internal conflict received a measure of gratification.

CASE 3. P. B., a single Swedish woman of 47, was sent to the hospital on account of some unfounded ideas concerning her employer and others. She had a religious upbringing, and was a graduate of grammar school. She came to the United States at 21, and worked steadily at domestic service, usually in families where several servants were employed. She was efficient,—if anything, over-conscientious; apt to be critical of her fellow-workers, and sensitive to lack of appreciation on the part of her mistress. She was rather austere, aloof and prudish; her associates called her a "man-hater." Prior to the onset of her psychosis she was in the household of a prominent Boston physician, and gave satisfactory service in every way.

For two weeks she felt the family's chauffeur was making love to her. He looked at her strangely and "talked sweet" to her. He gave her a red rose, to which act she attached much significance. She felt the other servants were discussing the matter and chanced the subject when she entered the room. The chauffeur's wife passed her without speaking. A week before admission she attended a big wedding at a summer colony where the family were living. All the servants were invited and there was much gossip about the event. From that date her symptoms developed rapidly. She became worried, sleepless and suspicious. She spoke of an "unclean atmosphere which makes me very unhappy," and said, "I think good men are scarce." Finally, she thought her physician-employer was himself showing a sentimental interest in her, and had a spirited interview in which she laid the whole matter before him and demanded redress.

While under observation her behavior and attitude were wholly normal except for a rigid adherence to her persecutory ideas and a rather excited talkativeness concerning them. She was discharged after five days' residence, and planned to leave at once with a sister for her home in Sweden. Unfortunately, it was not possible to follow this case. The clinical picture showed many benign features, and it is possible that with an entire change of environment she has made a satisfactory social adjustment with or

without the disappearance of her delusions. It is quite likely that she has found a compromise by adding her false beliefs on these topics to the other real experiences of her life, and may be now drawing for prospective immigrants dire pictures of the moral perils of domestic service for women.

The psychopathology in this case may be looked upon as similar to that in Case 2. All her life this patient had over-repressed the normal biological mating instincts. She was a man-hater and a prude, over-religious, and critical of others. This condition was not an adjustment to celibacy, but a denial and over-compensation of opposite tendencies. Instead of diverting her reproductive instincts to higher social levels, she tried to crush them out of existence. At forty-seven, the period of the menopause brought its special difficulties, both psychological and physical. The approaching end of the child-bearing period may have stimulated the starved sex and maternal instincts to new vigor; perhaps in the nature of a last desperate effort at expression. The repression, which had held for many years, weakened under the strain. It was still possible to keep the fundamental instincts from coming directly into consciousness, but they broke loose from bondage, and in substitutive form appeared as ideas of amorous persecution. By this symptom formation, as in the previous case, the two conflicting purposes of maintaining self-esteem and satisfying deep cravings were partially accomplished. This must be looked upon, to be sure, as a poor solution of a difficult problem. However, when contrasted with an alternative, which would require facing the real facts of the situation, perhaps the psychosis may be interpreted from the patient's standpoint as the lesser of two evils.

In Cases 4 and 5, as in the two just described, though in a somewhat different way, were shown disorders in relation to their love-life.

CASE 4. M. A., a divorced woman of 51, was admitted after an episode of excitement and confusion, during which she created a disturbance in a downtown hotel. The history showed a rather pampered childhood, the patient being much younger than her brothers and sisters and treated in an indulgent way by all the family. She graduated from normal school and taught for a few years. At 20, she married, and 8 years later divorced her husband on account of his alcoholism, after a long period of financial and domestic difficulty. There were two children, who were taken by her sisters when the home was broken up. Following her divorce the patient was employed for some years as demonstrator of a breakfast food, her work taking her at one time to Europe. Later, she acted as housekeeper in various hotels. She was quite independent in her makeup, and not always in close harmony with the rest of her family.

For six years prior to her psychosis she had acted as housekeeper for a widower who operated a rooming house. It is quite possible that she cherished a hope that this man would make her his wife. At any rate she found herself at fifty a disappointed woman, grinding out a dull routine existence, with but little to which she could look forward. An estrangement from her daughter and the death of several of her brothers and sisters added to her loneliness. For a year preceding her hospital admis-

sion she had thought much of her dead relatives, and "felt closer to them than to those who are living." At times she "seemed to be in a trance" and got vague messages in the way of warnings. Semi-automatic writing appeared and she composed profusely,—stories, reminiscences, poems and prayers. Most of the matter was fully coherent, and some showed a degree of literary merit. For a month she had felt something was going wrong about the house she was managing. She could not tell exactly what this was, but suffered an increasing uneasiness. The day before admission she heard hallucinatory voices of a threatening nature. She made an impulsive visit to her husband, whom she had not seen for fifteen years, and talked in a worried manner about their daughter, urging him to see that she did not go wrong. That night she stayed at a hotel to try to get away from the voices and sense of danger. She still had some insight, and felt that her ideas might be "imagination" and that a rest would modify them. The day of admission she developed a confused trance-like state, for which she had a fair memory, and which she described clearly later. She thought a play was to be staged in the streets of Boston; it was called "Truth and Fate," and she was to be the leading lady. Marriage to an old sweetheart was part of the plot, and the wedding breakfast was to be served in a prominent hotel. Acting on these beliefs she went to the hotel expecting a cordial reception. When the clerk denied knowledge of any preparation for the marriage ceremony she became incensed, talked loudly, and resisted vigorously when ejected by porters. She went to a second hotel and repeated the scene. She was there arrested and brought to the hospital by the police.

After admission she rapidly quieted from her initial excitement and showed marked depression with much crying for a few days. She soon developed complete control, dressed neatly, and stood out from other patients on account of her nature, good looks, and refined manner. She was for a time rather querulous when interviewed, and reluctant to discuss her condition. Her mood remained unhappy and tears were near the surface. She was from the beginning completely oriented and intellectual functions showed no impairment. She remembered clearly the events culminating in the hotel episodes and showed quite complete insight into the nature of her ideas and behavior. No morbid mental content in the way of delusions or hallucinations was brought out except for a somewhat exaggerated idea of the value of her written productions. Examination of the spinal fluid was wholly negative. After two months' hospital residence she was discharged recovered, and with good insight in regard to her illness. She had talked over her life quite freely with the physician, seemed to accept the explanation for the development of her mental symptoms, and showed a healthy attitude toward profiting by her experience.

This woman, like many other people, objected to growing old. She could not bear the thought that romance, popularity, and prominence were over. Her spoiled childhood and evasion of many later responsibilities while her sisters lived, did not well prepare her to face the demands of stern reality. She sought refuge in phantasy and began to feel that she was in communication with dead relatives,—thus gaining the loving consideration which the real world had ceased to give. She began to write and felt the gift was of divine origin and, no doubt, pictured herself as becoming well known and famous. In this belief was seen something wholly akin to the wish-fulfilling phantasies of childhood, carried a little further to the point of con-

viction in their reality. She soon vaguely sensed that something evil was impending, while ominous influences were felt and warnings received. She worried that her daughter might go wrong, perhaps projecting onto the younger generations some of her own still active erotic desires. Finally, she got to the point of believing and acting out a wish-fulfilling drama. She was to be the leading lady, the bride of an old sweetheart,—happiness at last! There followed a rude awakening when she was arrested by the police, and she was thrown back again to cold reality. The rapid disappearance of her symptoms under hospital environment, the healthy depression over the situation, and the development of insight, made, on the whole, a benign picture, and it seemed quite probable that this woman could take up her life again and make a satisfactory adjustment to things as they were. Two years later, a report from her son stated that she was living with him and there had been no recurrence of mental symptoms.

CASE 5. K. M., a single woman of 28, was admitted to the hospital on account of some odd behavior over a period of weeks, culminating in her taking an overdose of medicine with questionable suicidal intent. The mother died when the patient was ten years old, and she had lived with her father and brother, assuming at an early age the responsibilities of home management. She graduated from normal school, and had taught steadily in her native town for eight years. Home life was congenial. She was not restricted nor dominated in any way, and was encouraged by her father in outside social interests. In personality she was quiet, even-dispositioned and reserved. She was popular with her girl friends, and joined them in many quiet social pleasures. With men she was indifferent and shy, and had received little attention from them. She was a meticulous housekeeper, and conscientious in her school work. It was stated by her family that she usually seemed cheerful and professed herself as, on the whole, contented with life. She had found difficulty in dealing with the sexual problem. From puberty to three years before her illness she masturbated, and then stopped abruptly after developing a sudden panic over the moral and physical consequences. With the physician she discussed this matter quite frankly, and denied special retrospective anxiety concerning the habit. She took the attitude that it was a closed chapter in her life, with which she had little concern. During the months previous to her admission she appeared to lose interest in general affairs and sat about a great deal, apparently day-dreaming. If questioned by her family she was rather tart in her replies, saying, "If you will mind your business I'll mind mine." On one occasion there was some silly and unexplained laughter over a period of a few days. She continued teaching and did her working satisfactorily up to three days before admission. She then became markedly restless and talked at length about marrying a man she did not even know, and had to be watched to prevent her from wandering from the house. Her physician ordered some pills, and she took the whole box in one dose.

Mental status, when she was first examined, showed no disturbance of the intellectual functions. She presented a calm, smiling exterior, but gave evidence of tension underneath. She denied sickness or worry, and appeared quite unconcerned at being sent to the hospital. Delusions and odd behavior of any sort were absent. At first she was on the defensive, but

soon became wholly coöperative and frank. She discussed her symptoms freely and seemed concerned to understand them and avoid similar trouble in the future. With the exception of the marriage ideas, which she claimed to have completely forgotten, the facts of her illness were clearly recalled. She listened earnestly to explanations and advice of physicians, and was discharged after ten days, apparently wholly recovered and with satisfactory insight. A diagnosis of a schizophrenic episode was made, and the immediate prognosis seemed good. The possibility of recurrence in the form of future attacks, less benign in character, had to be considered. It was not possible to keep in medical touch with this patient as would have been desirable.

In formulating the mechanisms of this girl's psychosis, it is quite evident that her love life played an important part. It may be assumed that there was far more worry and conflict over her auto-erotic habits than she was willing to admit even to herself. Her complete lack of interest in the opposite sex may be interpreted as the result of a suppression of normal trends due to special sensitiveness on the topic. In the months before acute symptoms developed, she could be observed drifting away from healthy contact with reality, and getting some satisfaction out of phantasies, which the world of facts denied her. Finally, she broke over the borderline into real delusions, which centered around an approaching marriage. It is not difficult to see in these delusions a wish-fulfillment and phantasy gratification of hitherto repressed desires.

In none of the five cases reported was there undertaken any deep analysis of psychological mechanisms. They have been presented merely to outline in a general way some of the paths along which psychological forces may have operated. The final test for the value of any hypothesis in regard to the cause of mental disease must lie in its practical application to prevention and cure. Patients themselves seldom interpret their own symptoms along psychogenic lines. This is not difficult to understand if there is recognized in such symptoms an attempt on the part of the individual to escape from the realization of painful psychological conflicts. The question arises,—Can a patient, by the teaching and guidance of a physician, be aided in self-knowledge, and thereby to better self-control? In the so-called psychoneuroses, the answer must be unhesitatingly yes. The successful treatment of many of the war neuroses by such methods would alone establish their value. Psychotherapeutic treatment of the hospital psychoses is a less well-established method. It was tried to some extent in the group of patients presented in this paper. Cases 4 and 5 seemed to profit distinctly. Case 2 was possibly made worse. The attack of acute religious excitement, occurring while under hospital observation, followed shortly after an explanation of the psycho-pathological factors involved, to which she listened with close attention and without comment. In Case 1 it could not be ob-

served that quite persistent explanation and discussion brought either good or harm.

Whether the principles of modern psychopathology can be employed successfully in the prevention of mental disease cannot be answered, for the simple reason that such use has never been made of them. It is interesting to speculate whether some routine teaching during the period of development, concerning the deeper forces operative in the human personality, would in any way aid the individual to deal robustly with inevitable conflict and avoid the distortion of those same forces in later life. The present educational system informs the individual on all possible subjects, with the exception of himself. There is something both ludicrous and tragic in such an omission. It seems reasonable to predict that the time will come when a study of human constitution and mechanisms of character formation will be considered of equal importance with the study of the physical sciences, as preparation for the battle of life; after all, "the proper study of mankind is man."

SOME CONCLUSIONS DERIVED FROM THE LAST FIVE YEARS' WORK AT THE NATIONAL HOSPITAL FOR SPEECH DISORDERS.*

BY JAMES SONNETT GREENE, M.D., NEW YORK,

Director, The National Hospital for Speech Disorders, New York.

SPEECH is the most valuable of all our accomplishments. It is used by more people daily and in more ways and for more problems of life, and to solve more issues than any other human activity.

It is impossible, with the keen competition going on, to be successful without speech. Everywhere there is an insistent demand for speech—the social world requires it; the business world demands it. The professional man, at his best, does not get far without effective speech, for without it his service to mankind is crippled. Even the laboring man realizes the fact that his children must have speech, especially so if he has ever had any trouble himself. It, therefore, goes without saying, that without normal speech one cannot be successful in the pursuit of life's problems.

It may surprise one to hear, but it is a fact, nevertheless, that speech stands today as the poorest provided for, both in educational and medical circles. There has not been enough concern for the daily needs of hundreds of thousands of boys and girls throughout all levels of education and in all ranks of society. Even the casual observer will discover that there has been something decidedly negligent about the way

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speech and its abnormalities or defects have been treated.

Traditionally, speech is considered within the province of the educator. When there is an abnormality, it must come within the province of the physician, because the doctor's main interest has always been in abnormalities concerning the psycho-physical phases of the human being, and it becomes incumbent on him to discover and bring about the best means of giving relief.

In going through the literature on abnormal or defective speech, one is struck by the constant reiteration of the lack of interest on the part of the medical profession in those that suffer from speech disorders. If anyone should take the trouble to attend a meeting where papers are read or a discussion is held in reference to those suffering from defective speech or voice conditions, invariably the fact is brought out that doctors know very little regarding the subject and are not interested.

That may be true after a fashion, but I feel personally that doctors are getting interested and are becoming more so daily. A great deal of good work has been accomplished to date by a number of men in the field, and the near future will bring forth more work and knowledge of this specialty.

I hope it will prove of interest to give a brief résumé of my conclusions obtained through the handling of over 5000 patients suffering from various forms of defective speech in the last five years at the National Hospital for Speech Disorders. Separating them into their various groupings, there were stutterers, stammerers, cleft palate cases, aphasia cases, voice cases, and other miscellaneous voice and speech conditions. We have found that each class presents certain outstanding features, characteristic, as it were, of the different groups of patients. In this paper, on account of the extensiveness of the subject, I am compelled to confine myself to some of the major speech abnormalities, postponing discussion on voice and minor phases of the subject.

As we all know, in cases of aphasia the speech trouble arises from organic lesions and anomalies in the cortical centers of control. Some of these cases were seen in their homes and others had gotten well enough to be about and came to the Hospital for speech training. A great many factors enter into the handling of these cases. At the very best it is a long-drawn-out process, and the results are as good as can be expected, depending upon the seriousness of the condition. The prognosis is usually bad. The only way to handle these cases is through individual treatment.

In the large group of hare lip and cleft palate cases, the ages ranged from a few months to seventy years old. These patients always prove interesting problems.

Dr. MacKenty, in his paper on operative treatment of cleft palate, written in 1914, prior to the

existence of our Hospital, said that "a number of surgeons feel that the operative treatment has reached its limits of perfection, and withal a large percentage of failure remains,—not so much cosmetic, perhaps, as functional. In spite of a well-accomplished operation, correct speech does not always follow. This latter failure is not so evident among the well-to-do as in the poorer classes, from which a very large percentage of our cleft palates come. It sometimes takes years of persistent teaching to make the surgically cured palate functionate, and the uneducated poor have not the intelligence, the time nor the money to follow this course of training."

He also said: "My experience convinces me that the percentage of speech failure is much larger than that of surgical failure." I feel satisfied that Dr. MacKenty's views in reference to the percentage of speech failures has changed, because since the founding of our hospital we have had under observation and treatment perhaps the largest group of cleft palate cases that was ever gotten together anywhere in this country.

In these cases, strange as it may seem, the speech or voice defect does not coincide with the size of the palatal defect, for there are small defects which greatly interfere with the production of speech, while in some large defects of the palate, even with hare lip, one finds tolerable good speech without even resorting to the use of mechanical interference.

It is hardly necessary to state that closure of the cleft does not remedy their defective articulation; but I might add that the resonance of the voice becomes more normal, simply through the improved anatomical status.

In nearly every case speech training is not only advisable but absolutely necessary, for, as well as there existed a faulty physical condition, there also existed a faulty psychical condition, and while operative measures have been successful, the speech remains the same.

Following the operation the cleft palate patient presents one or all of the following defects of speech: On account of the lack of elasticity and mobility of the soft palate the nasal snort is heard during the production of many of the consonants. There is a non-existence of the consonants K and G. Also a non-existence of the consonants L, T, D. Where there is a hare lip there is a difficulty in the production of the labials.

Following an operation it occasionally happens that the soft palate is too short to reach close to the posterior pharyngeal wall, consequently some cleft palate patients possess, to a more or less degree, a permanent rhinolalia-aperta voice, a nasal voice, even after everything possible has been done by both operative and speech training measures. The difficulties of the speech of these patients are nearly always increased by abnormal positions of the teeth and of the alveolar processes with the body

of the bones to which they are attached. Their correction must be taken care of, before the best results in speech can be obtained.

On account of our non-operative cleft palate cases and the numerous conditions of dental anomalies that are present in all kinds of defective speech cases we have found it necessary, in order to get the desired results, to conduct a fully equipped dental department at our hospital where special obturators, plates and MacKenty splints are made, and orthodontia work is carried out for mal-occlusion cases.

Speaking about voice and speech results in these cleft palate cases, I wish to call to your attention a special phase which these patients present, the condition—amusia. All cleft palate cases suffer from amusia, that is, a disturbance in the musical faculty. They all demonstrate one definite form of amusia, that of tone deafness. Defects in the musical and speech faculties may co-exist or exist independently of each other. The independent occurrence of disturbances in their musical faculty points to the existence of a separate centre presiding over the musical memory.

No progress can be made in the elimination of nasality, the great bane of cleft palate cases, until the patient's musical sense has been developed to such a degree that he or she realizes the difference between nasal and non-nasal intonation. As soon as this takes place the patient strives for purer intonation, and gradually the nasality diminishes until it is to all intents and purposes completely lost. In other words, he has lost his tone deafness and of course does not suffer from amusia any longer.

The result of speech treatment in these cases depends principally upon the condition of the soft palate—if care is taken and the surgeon carefully preserves as much tissue as possible so that there is something to separate the nasal from the oral cavity the voice and speech can always be made better. On the contrary, where, following an operation there is much cicatrization and contraction of the soft palate, speech results are not as good. We have been fortunate enough to have had many cases sent to us with excellent operative results and of course speech results have been correspondingly good.

Stammering patients are the next group we will consider. At the hospital we make quite a distinction between stammering and stuttering cases. To avoid misunderstanding it may be well to state the difference between stammering and stuttering. They should not be considered as interchangeable terms. They are two distinct classifications of speech anomalies.

Stammering is defective enunciation which may arise from lack of development as, for instance, in the baby talk of childhood, or from malformations and traumatic interferences with the organs or articulation. The continuity of a stammerer's speech is never broken, but the enunciation is at fault.

Stuttering is speech of a hesitating nature which is conditioned on certain states of mind in the form of emotions, feelings, attitudes or ideas. The continuity of the stutterer's speech is interrupted by spasms of the muscles involved in speech production. The stutterer is able to enunciate every sound or combination of sounds.

Gutzmann describes the difference in one sentence by saying, "Stottern ist ein Fehler der Rede; Stammeln ein Fehler der Aussprache," meaning that stuttering is a defect of conversation while stammering is a defect of enunciation.

The defective enunciation in these patients ranged from minor slight defects, as somewhat indistinct utterance, to definite omissions, substitutions or additions of sounds in words, resulting in severer cases to a confused, unintelligible speech. We have placed under this heading—stammering—the special forms or classifications of defective enunciation such as lisping, baby talk, idioglossia, agitophasia.

Those that lip show a defect in the formation of the friction sounds, as s, ss, sh, z, zh. Those that have baby talk may show a mutilated substitution or omission of sounds.

Idioglossia patients demonstrate stammering speech of a most pronounced form, particularly observed in young children, who seem to speak a distinct language of their own. Parts of words or whole words may be slurred, disjointed or otherwise mutilated. In severe cases they are quite unintelligible except perhaps to their little brothers and sisters who often are the only ones who understand them. From the pronounced condition apparent one may think that idioglossia is associated with a malformation of the organs of speech, but this is not so. It is probably due to congenital deficient appreciation of musical tone.

Agitophasia, or speech agitations, is a stammering condition due to excessive rapidity of speech and is a very prevalent defect. These patients have great difficulty in making people understand what they say, so much so that they have a hard time in holding positions. In talking, their sounds or syllables are unconsciously omitted, slurred, mutilated or otherwise imperfectly uttered, on account of their excessive rapidity of speech.

Stammerers either present a central (cerebral) involvement, or a peripheral involvement, due to malformation of the organs of speech. The central involvement is either of a primary, so-called functional nature, or secondary, which is of an acquired nature. The peripheral involvement is either congenital (hare lip, cleft palate, malformations of the tongue, jaw conditions, etc.), or it is acquired (conditions of lips, teeth, gums, palate, tongue, pharynx, larynx, ears, etc.). The result of speech treatment in these cases is usually good unless there is present a very severe malformation.

The largest group that we have had, and the one that proved to be the most interesting, were the stutterers; 3383 patients suffering from hesitating or stuttering speech have registered at our clinic.

As already pointed out, stuttering speech is speech of a hesitating nature and of an intermittent character, the assumption being that it is not associated with organic lesions, but is conditioned on certain states of mind—emotions, feelings, attitudes or ideas.

In other words, stuttering speech is a neuropathic manifestation which has become a veritable obsession of a psychopathic or a psychasthenic individual, this state being the result of an unconscious motive, usually caused by the inability of the patient to adjust himself to some difficult situation. The nervous system of such an individual presents a special make-up, that of increased irritability with diminished capacity; a system that becomes easily affected from the least cause, and is constantly threatened with a break. If trying conditions occur, lowering his resistance to a given point, then when an emotional disturbance of some force occurs, such as a shock, a fright, or an illness, the mental state is developed which precipitates his stuttering symptom.

Since the condition is endogenic, all having a heavy hereditary predisposition, the patient carries his burden all through life, though his symptoms can be kept in abeyance. As a whole, these patients are peculiar, very emotional, impressionable, self-analyzing, extremely sensitive. They are eccentric dreamers with romantic tendencies, are subject to attacks of great anxiety, to morbid fears and obsessions. Introversion occupies an important place in the stutterer's make-up. There is inability to focus the attention and maintain sustained effort at any work, and an equal inability to practice either mental or physical composure. He is often a "Tiquerur" and almost all demonstrate a marked condition of muscular incoordination.

When these patients come under the influence of some special emotion it is the immediate means of throwing them into a state of disharmony or incoordination which extends to the speech mechanism. Attempts at speech in that state result in spasmodic hesitations designated as stuttering speech.

I feel sure that one cannot realize what stuttering speech means and does to an individual unless he has had an opportunity to deal with hundreds of these cases. To me the stuttering individual is a special being whose span of life consists of the problems of physical existence without mental peace, trying to do things but always in a state of mental unrest. He lives in a world of his own making,—since his nervous system reacts abnormally to ordinary physical or emotional stimulation, he is in a chronic state of mal-adjustment and, therefore, has great dif-

ficulty in adapting himself to surrounding conditions.

Statistically it has been estimated that there are 1,000,000 people in this country suffering from some form of speech disorder, that there are 500,000 children who show the symptom of stuttering; that means, as said before, that these children suffer from an ingrained neuropathic heredity; that also means that the parents of these nervous children of a necessity are nervous themselves.

From observation at the Clinic, in reference to the speech of these parents, they are usually rapid, jerky talkers. So when the nervous child attempts speech, it does it in a clumsy, haphazard, indefinite manner, under more or less emotional stress depending on existing circumstances, and the result is a poor imitation of a bad model, and since man is a creature of habit, bad speech habits are developed and grounded in.

If this subject had received the consideration that it deserves parents would be made to fully realize the rôle they play in the cause of this condition, their accountability, their status, and would no doubt strive to better their nervous speech condition with resultant benefit to their children.

An idea that has been advanced quite often and is rather popular is that all men as babies started life on an equal footing; that adult differences in intelligence depend upon training and early environment. Such an idea has no evidence behind it except a humanitarian motive, for when children are tested at intervals, the bright child of 3 appears as the bright child at 6, and the bright child of 6 reappears as the bright child at 12; and the same with the dull child. In brief, all the evidence indicates that the capacity for mental growth is predetermined, and that a certain degree of intelligence is as much an inherent characteristic of the individual as is his color of hair or eyes.

The child who suffers from defective speech, as stuttering, of a necessity is in the same category, but whether it has been predetermined that he be bright or dull, one thing is certain—he can never fully attain what is in store for him, on account of his handicap. His defective speech is the great obstacle to his full development.

In school, children suffer untold tortures on account of their defective speech. Finding that they are unable to hold their own they are prone to develop vicious cycles of thought and action. They show a lack of concentration, of attention, of self-confidence, a mental sluggishness due to inability to express their thoughts and of involuntary prevarication in order to cover their deficiencies. They are of a shut-in type, secluded from the very beginning of their existence. Inevitably their educational development always suffers. Most of those at the Clinic give a history of having given up school

or college because of their defect. Consequently, when older, they start the battle of life more or less handicapped, and it is surprising how small a percentage really attain their objective.

I have thousands of letters at the Clinic from adult stutterers asking for advice and help and in almost every one the writer notes dissatisfaction and claims to have gotten as far as he could go—to be unable to proceed further without normal speech. It is easy to understand that there are very few positions open to those who cannot talk. Unless one is gifted as a writer, an artist, or a musician, he has a very hard time to earn his livelihood or make any advancement.

These patients are in a special class of their own, and although they do not appear sick, on account of their ambulatory condition, they are in a good many instances considerably worse off than those who are laid up in bed. The prognosis of these cases is very favorable when proper treatment is instituted.

The backbone of our treatment at the hospital is based on two broad principles: 1, to fit men to live agreeably in their environment; 2, to enable them to live lives that are useful and helpful.

In order to attain that objective, psychological, educational, social, and human character treatment must be carried out, and on account of the great number of patients that we have daily I have instituted group analytical reconstruction treatment, if it can be termed that. Patients are treated along psychological lines in groups in the same way as we treat them in groups along educational and social lines. The result of this group work is very gratifying.

The vast majority of our patients have practically a speech phobia. Their negative speech and other ideas which are firmly fixed can only be dispelled by training them and giving the patient a clear insight into their nature.

We have found that almost all of our patients, especially the stutterers, present an endless variety of flaws in both the inner adjustment of themselves as a whole, and their adjustment to outer conditions or environment. They find it hard to satisfy their ego while saturated with a feeling of inferiority, and the only way they attain their objective is through imaginary achievement. Consequently we must adjust in the patient the relationship between his inner self and the outer condition, and his maladaptation to society.

Of a necessity they must be given a personality that is able to face the reality of facts. They are given the ability to surmount their distorted imaginations and emotionalism and view things in the light of cold reasoning. A standard balance between emotional and intellectual processes is established.

Examinations have to be carried out and various tests given to determine the patient's mental aptitudes and capabilities so that vocational counsel and guidance can be given, for most

of our patients when they first come to us are employed in work not adapted to them; they have drifted from job to job, unable to get anywhere. Vocational guidance plays an important part in their future success. Coordination and harmony must reign supreme, then only can speech results be obtained through our composite therapy.

By composite therapy I mean a treatment of a medical, psychological, re-education and social nature. The doctor, the educator, and the social worker are the greatest factors for good when they are fused together in such a harmonious union that their adjustment completely saturates the maladjustment of these patients.

I realize the marvelous things that have been attained through specialism, but it appears that there is still room for a special physician—a composite medical man—a speech psychiatric, educational social working doctor, a doctor who is not only a speech specialist but one who is able to change and make over the individual. He must be able to recognize the fact that human nature is not cast into a single mold, and what may be good and prove of help to one may not work at all in another case; but under careful and painstaking measures he is always able to find a method for desired results.

The question naturally arises why an important work like this still does not get the recognition it deserves. The answer is simple. The whole subject was never approached from the proper angle. In private practice very little can be done for these patients. The vast majority of them, on account of the many-sided treatment necessary, could only obtain relief in a special speech hospital, and since there were no speech hospitals, ours being the first of its kind devoted solely to this specialty, interest could not grow and a practical solution of the problem could not take place. There also could not be enough physicians because there was no place in this country where training could be obtained.

Time and again I have been invited to conduct a speech clinic as part of the dispensary work carried out by some of our hospitals. You no doubt realize that to carry out this work with all its ramifications in one or two rooms of a dispensary is simply out of the question. Space is essential in order to obtain desired results. Right now we find that our little Hospital—a four-story brownstone building—is entirely inadequate for the various phases of the work that we are carrying out.

Furthermore, the subject being in its infancy, there should be room to take care of the enormous amount of clinical material which comes under observation in a large city. The wealth of clinical material must not be lost, and only under proper conditions and resources can it be used for the advancement of medical science. Not having teaching facilities at present, hundreds of cases of a most interesting nature

pass through the routine of our clinic practically unseen and unutilized every year.

Before I close this paper I wish to give a brief abstract from an article about the cost of defective speech to the community which appeared in the last issue of our little Clinic magazine called "Talk."

The article states that there are in this country about 120,000 people suffering from defective speech to such a degree that it interferes with their earning power; that the computation of the earnings of one hundred cases admitted to the Hospital during the last few weeks, (and these cases are of course the most aggressive ones of the general group of speech sufferers, since they are striving to better their condition and looking for help) shows their wages on an average to be about \$18 a week.

The statistics of the National Industrial Conference Board regarding wages and employment in twenty-three industries show that the labor groups to which these patients should belong were in December, 1922, earning an average of \$28.22 a week. Comparing this with our figure of \$18 a week we see that there is a definite loss of slightly over \$10 a week, or approximately \$500 a year, which is directly chargeable to every case of defective speech.

As already mentioned, there are 120,000 workers handicapped with a speech defect, and since there is a loss of \$500 for each one, the sum total money loss to the individual and to the community is \$60,000,000 every year, which could be saved by curing them of their speech troubles.

We have found that the average increase in the earning power of the stutterer, for example, within two years after being cured, is at least equal to this amount,—\$500. As a matter of fact, the loss is much greater than that. We have purposely made our figures very conservative to avoid the possibility of exaggeration—putting the number of speech defectives as low as two in every thousand of the population.

When we consider the cumulative effect of the speech disorder on the individual, the wasted effort resulting from social and industrial maladjustment, and the positive loss due to his inability to perform his tasks properly because he cannot talk, the cost of each case eventually becomes much more than ten dollars a week, and the total for each year far exceeds \$60,000,000. However, the total of sixty millions is sufficiently impressive to show the vital need for more interest in this subject and greater extension of the work.

In conclusion, it is quite evident that I have touched but lightly on the subject of the characterization of some of the various forms of speech disorders in a very broad way only. It is realized that the various phases that have been discussed must be taken up in a more detailed manner. One thing is clear: The subject that was regarded as an uninteresting one to the

medical profession is now recognized and coming into its own as a medical specialty. Of great interest is the change in our point of view. Stuttering speech was supposed to be a practically non-curable condition; now we are observing more and more complete recoveries. Also the interest has shifted from ages of theoretical discussion to the practical question of healing.

As soon as this problem of defective speech is known and fully realized in its true significance by our American people, their public spirit will undoubtedly assure the taking up, enthusiastically and actively, of a national movement for the advancement and standardization of this great and important work.

THE VALUE OF ANIMAL EXPERIMENTATION TO THE MEDICAL PROFESSION AND TO THE PEOPLE.

BY VICTOR C. VAUGHAN, M.D., CHICAGO, ILL.

THE greatest advances in modern medicine and the greatest good which has come to the profession, and to the laity, has had its beginning in animal experimentation. I shall first consider tuberculosis.

In the sixties of the last century a French army physician, Villemin, demonstrated by animal experimentation that (1) tuberculosis is an infectious and contagious disease; (2) the virus is contained in the discharges from tuberculous men and animals; (3) the disease is transmitted from man to man and from animal to man by inhalation of infected dust or by the ingestion of contaminated food or drink; (4) houses and stables become centers for the transmission and distribution of this disease by being soiled with untreated tuberculosis discharges, and (5) the spread of tuberculosis may be restricted by the immediate destruction of all such discharges.

In 1882, the great German bacteriologist, Koch, demonstrated the presence of the specific virus of tuberculosis in the sputum and other discharges from tuberculous men and animals. Villemin's and Koch's work supplied the world with the essential and basic information needed in the abatement of this disease. A few of the more enlightened physicians and health officers comprehended the value of Villemin's discovery and began to interest the people, even before the confirmatory observations of Koch, in the fact that tuberculosis is a contagious and therefore a preventable disease. It required a much longer time for this idea to permeate the great mass of the medical profession, however, and it was not until the general public became convinced that tuberculosis is a contagious and preventable disease and took an active part in the crusade against it, that the death rate from this cause began to show a continuous decline. The National Tuberculosis Association was not organized until 1904. At that time in all of the

United States only a few beds and a still smaller number of dispensaries were devoted to the treatment and prevention of this disease. Today there are nearly seventy thousand beds, hundreds of dispensaries, and thousands of nurses, physicians and social workers who are training more than a hundred thousand consumptives each year how to take care of themselves and how to avoid infecting others.

In 1910, the death rate from tuberculosis in the United States stood at 202 for each hundred thousand, in 1920 at 114. This means that in the one year of 1920, the number of lives saved from death by tuberculosis, because it had been recognized as a contagious and therefore preventable disease, was 8,800.

The factors in the reduction of the death rate from tuberculosis may be stated in the following order: (1) proof by animal experimentation of the contagious and preventable nature of the disease; (2) recommendation by the medical profession to the people of the application of measures indicated by the experimental work for the restriction of this disease; and (3) the acceptance of the recommendation and the application of restrictive measures by the people.

This is a fair illustration of the way in which scientific medicine has come into existence, has developed, and has resulted in the improvement of the conditions of life. In the first place, knowledge is essential; this knowledge must be tested and adapted to special needs, and, finally, its benefits must be recognized by the people at large. Medicine may be defined as the application of scientific discoveries to the prevention of disease, the development of the highest possible degree of health, the delay of death. The scientist makes his discovery, usually by animal experimentation; the physician tests its application; and if the widest good is to be secured, the people must adopt the recommendations and put them into operation.

DIPHTHERIA.

In pre-antitoxin days in certain sections of this country, notably in the region of the Great Lakes, diphtheria killed annually more than 100 of every hundred thousand of the population. In the early nineties animal experimentation gave us that marvelous agent in the prevention and treatment of this disease, known as diphtheria antitoxin. In 1894, physicians began to apply this discovery; by 1900 the death rate from diphtheria had fallen to 44 for every hundred thousand, and by 1920 to 15. This, however, does not tell the whole story. It only gives the deaths, while still larger numbers of children have been saved from developing the disease by preventive treatment; nor have we yet reached the possible limit in securing beneficial results from the use of antitoxin. Widespread appreciation of its value by parents, guardians, and school authorities, and its early use would further reduce the morbidity and

mortality from this disease. When the antitoxin is administered in the first hour after the appearance of the membrane in the throat or nose there are no deaths. The poison of the disease is neutralized by the antitoxin as surely as acid is neutralized by alkali. Recently a simple and safe test has been discovered by which the susceptibility of any child to diphtheria can be determined, and immunity secured for those not possessing it.

The above illustrations might be greatly amplified and applied to other diseases. Animal experimentation has supplied the facts upon which modern medicine, both preventive and curative, is based, and since 1900 the death rate in the United States has been reduced in round numbers from about 20 per thousand annually to about 12 per thousand; while, at the same time, the average life has been prolonged about 15 years.

THE ACTIVITIES OF THE SCHOOL NURSE WHEN UNDER PROPER DIRECTION.

BY HUGH GRANT ROWELL, M.D., NEW BEDFORD, MASS.

Director of Health and Hygiene in the New Bedford School Department.

CERTAIN criticisms, perhaps somewhat justified, have arisen regarding the function of the school nurse, as a result of the detailed account of the ideal education and duties of such positions outlined in Reprint No. 783 of the U. S. Public Health Service. Since I have a force of unusually well-trained and experienced nurses, and in addition some who have been with me only a brief time, I can perhaps give information of some value in the discussion.

The constant idea that the school nurse is doing the work of a physician need not be a correct one, since the duties are somewhat sharply outlined in a well-working system, regardless of whether it is on the full-time or part-time basis.

The duty of the physician is in general diagnosis, and it is desirable that the material should be ready for him, just as it is in the average well-run hospital clinic. If, in addition, he can have some one to make his records for him, he has no more service than if he were in a prosperous practice in his own office. If also he has a person who will follow his cases into the homes and there explain his desires to the family and urge upon them the necessity of complying with them, then his success as a school physician is greatly improved, for his results are better. It is a proved fact that the efficiency of a school health system is much greater if the nurse is on the staff, as well as the physician. So far the nurse, then, has not practiced medicine any more than she does in your own office. If, in ad-

dition, after being given directions, she applies certain ointments at defined intervals to certain lesions, between visits of the physician, she has still done no more than she would do on a private case.

School physicians of the full-time type naturally give their whole services to their system, and be it said they usually cover considerable ground.

On the other hand, the part-time physician averages to get about \$2 or \$3 an hour if he spends the desired two hours per day in the schools, and is usually paid on a lump sum basis for handling the job. Commonly this fee is around \$500, which, perhaps, helps keep the auto going. Not over 10 per cent. of his income, then, comes from the school, at most.

In the face of this system, he cannot give the time to his work that he might wish, or if he does, his practice suffers. Two calls lost in a morning would mean more than he would get from his two hours in the schools. The result is that usually he fails to spend the two hours, and the service is then limited. The teachers and principals are inclined to feel slighted as to service and will not particularly concern themselves in giving him a large clinic, because they question his interest, and interest reflects right through a school system, just as much as lack of it does. Hence the doctor honestly believes he is keeping his schools in good shape, whereas he is merely not seeing the material. On the other hand, give him a nurse to round up the material, and he is bound to see more cases, unless it is his distinct wish not to do so.

The so-called medical work of the nurse, in fact, the treatment of the great defect found in the schools, is for pediculosis. Most physicians frankly admit that the disease is merely disgusting to them and they have little interest in it, unless there be a definite fee attached to the care, and often not then. Few physicians would care to demonstrate the kerosene shampoo commonly used in the school system, and here the nurse again really relieves them of unattractive work, at no decrease in their compensation. The same may be said of scabies, only here the physician's diagnosis is desirable, although it is a fact that either a teacher or a nurse can readily recognize its presence, and since these cases cannot wait till the next visit of the doctor, it is either up to him to make an emergency call, thus putting in additional time for his small salary, or else for the nurse to take care of the case, unless it becomes one which is resisting simple methods with some obstinacy.

The purpose of the medical end of school work is, above all, to keep up attendance. Therefore, any delay in handling a given case means so much loss of school work added, and promotions are made on the basis of actual learning and not charming personality.

Actually the presence of the school nurse creates certain places for school physicians. The

physician cannot or will not do the duties primarily falling upon the nurse. Once having a school nurse, a community is soon shown by her efforts that the assistance of a physician is also desirable for efficient work, so that instead of stealing the physician's job she is actually making one for him. If the physician happens to be the first on the ground he will soon discover that his greatest need is a nurse.

School systems will probably never reach the so-called ideal personnels, and this fact is probably the basis for the idea which certain physicians have that the nurse is doing medical work. Budgets are based on popular opinion of needs rather than actual needs, because the public will stand about so much taxes, and that is all. One nurse costs slightly more than two part-time physicians and gives her full time. Since she can do work absolutely needed in schools, and which the doctor has neither the time nor desire to do, she becomes an essential.

We must admit that at times school nurses attempt too much, but this is due rather to an effort to be of real value than anything else. Training schools teach her to depend largely on physicians' orders, and she still desires to do so. Many school physicians are glad to give her a little leeway, if only to relieve themselves from the possibilities of decreased results. Under a properly organized system the nurse will not conflict with the physician's activities.

Certain complaints are made because a nurse may advise a child regarding its diet, often urging the use of milk, yet medical men recognize the necessity of suitable and well-balanced meals, and this advice is really a follow-up of the previous diagnosis of malnutrition from dietary causes. Even this, then, is supplementing.

As to class-room inspection and sanitary inspections, these merely come before or between physician's visits, and the findings are commonly reported to him for action.

In other words, so far I have tried to prove that the school nurse in no way causes a decrease in the personnel of the staff of physicians, but rather improves its efficiency.

Regarding her making diagnoses: A "nurse's diagnosis" is always a subject of great amusement among certain medical men, and yet in important hospitals there are nurses who through long experience have acquired certain ideas, whose opinions are sought and respected by the chief members of the staff and rightly. The nurse does not make diagnoses. She merely decides whether the physician should see a case or not, just as she decides whether the physician should be called to his patient's bedside in the middle of the night. She must simply classify a case in some way, and therefore either decides that an abnormal condition exists, which needs medical advice, or else attempts to classify the case enough to direct it to the proper type of advice, just as the admitting nurse or physician directs certain out-patient cases to specified

clinics. In other words, she is again merely saving the physician's time and improving his efficiency. Her opinion is not the basis for treatment, but for sorting.

Another thing: In schools, the important thing in certain cases is to get them out of the school room, that others may not be infected. Naturally she has to form some sort of opinion of the case to do this. In all cases the services of a physician are urged.

Regarding special training: Any nurse in public health work is dealing with patients to whom the visit of a physician, except on a charity basis, is often impossible. She is commonly acting under a physician's order, medically speaking. However, the special training is needed to permit her to meet special conditions of a social service nature and to train her to improvise and also to give a maximum of comfort and assistance in the smallest possible amount of time, for she has many patients. Each type of public health work has its peculiarities, and it takes a good nurse at least six months to even find her feet in school work. Some never can do so. So many personal factors enter, such as love of children, willingness to do hard work, etc., and if special training can weed out the unfit, the economic burden of inefficiency will be greatly decreased.

As to the competition of public health nursing with private work, let it only be said that public health work is just as hard, the hours almost as long, and the requirements exacting. The type of nurse in private work is different from the public health type, and the private nurse who goes into the other work as a "snap" soon finds she has made a mistake, and gets out. As a matter of fact, why do not office and executive jobs for nurses also compete with private work? Most of us know why the growing generation do not care to become nurses and the remedy is not in limiting the field. Also, on a weekly basis, the public health nurse draws less pay than the nurse in private work and will always do so. That the exigencies of finding work are avoided by a steady position, is true. The answer is that the nurses' agencies should be organized to meet this.

From this summary of the work and its conditions, I think you will agree that several conclusions can be drawn: 1. The public health nurse of any type does not function or is not hired in competition with private work, any more than doctors compete with lawyers or surgeons with dermatologists. 2. The school nurse, when properly functioning, requires certain special training, which she may get in special circumstances or through learning while on the job. 3. In a well-organized plan, the school nurse in no way competes with the practicing or school physician, but rather supplements his work for purposes of efficiency, and in no way does her presence militate against school physicians' positions being created or functioning,

but rather improves the chances of such appointments. 4. Her conversion into a woman physician would merely create further competition in a really overcrowded profession, whereas she now opens opportunity for certain physicians making slight additions to their incomes. 5. She does not practice medicine, but rather a highly specialized form of nursing, without which the school physician fails of success. 6. The chief criticism of her work is a result of lack of understanding of the situation or because of unfortunate rare instances which have been generalized by the critic.

In conclusion, we must remember that the physician who coöperates finds the school nurse an important "feeder" to his practice, since she frequently reveals to parents the necessity for certain of his cases visiting him on occasions when they would not otherwise come, and it is also true that the discovery of defects or disease in a child who has not a definite family physician means that some physician (chosen by the family—not the nurse) is going to increase his practice by the addition of this family to it, unless finances require the services of clinics or other semi-charitable organizations.

The Massachusetts Medical Society.

PROCEEDINGS OF THE SOCIETY.

First Day, June 12, 1923.

Tuesday morning of the first day was spent by the Fellows and their wives and guests in golf, tennis, and sightseeing, in and about Pittsfield, the place of meeting. At two o'clock in the afternoon the Sections of Medicine, Surgery and Hospital Administration held meetings in the rooms of the Maplewood Hotel; at four o'clock the Supervisors held their annual meeting, transacting the usual business and voting that, in their opinion, the By-Laws should be amended to the effect that an applicant for fellowship should have been a legal resident of the district where he applies for examination before the censors for at least six months previous to said examination, thereby preventing an applicant from moving from district to district and making more than one *bona fide* application. At twenty minutes of five the Council met in the ballroom, seventy-one councilors signing the attendance books. (See Proceedings of the Council.) In the evening the Shattuck Lecture was delivered in the same room by Dr. Dean Lewis of Chicago. Subject, "Some Peripheral Nerve Problems." Following the lecture there was a reception to the President, dancing, and a buffet supper.

Second Day, June 13, 1923.

Wednesday morning, at half-past nine o'clock,

the three remaining Sections held their meetings in the Maplewood Hotel, namely, Section of Tuberculosis, Section of Pediatrics, and the new Section of Obstetrics and Gynecology. The programs of all of the six Sections were printed in the official organ of the Society several times, as well as in the official program, which was sent to every Fellow. The attendance at the different meetings and the officers elected by them for the ensuing year were as follows:

SECTION OF MEDICINE: Attendance June 12, 1923, 150.
Officers for 1924:

Chairman, E. A. Locke, Boston.

Secretary, W. R. Ohler, Jamaica Plain.

SECTION OF SURGERY: Attendance June 12, 1923, 125.
Officers for 1924:

Chairman, P. P. Johnson, Beverly.

Secretary, R. W. French, Fall River.

SECTION OF HOSPITAL ADMINISTRATION: Attendance June 12, 1923, 51. Officers for 1924:

Chairman, H. M. Pollock, Allston.

Secretary, E. W. Wilson, Boston.

SECTION OF TUBERCULOSIS: Attendance June 13, 1923, 50. Officers for 1924:

Chairman, Henry Colt, Pittsfield.

Secretary, P. J. Sullivan, Dalton.

SECTION OF PEDIATRICS: Attendance June 13, 1923, 72. Officers for 1924:

Chairman, W. W. Howell, West Roxbury.

Secretary, J. H. Young, Newton.

SECTION OF OBSTETRICS AND GYNECOLOGY: Attendance June 13, 1923, 125. Officers for 1924:

Chairman, C. E. Mongan, Somerville.

Secretary, F. C. Irving, Boston.

At noon the Society gathered in the ballroom of the Maplewood Hotel for the exercises of the one hundred and forty-second anniversary, about one hundred Fellows being present. The President, Dr. John W. Bartol of Boston, was in the chair; the Secretary read the minutes of the last meeting and they were approved. He made the following statement of the membership for the year closing on that day: The Society had lost, by death, 64; by resignation, 31; by deprivation of the privileges of fellowship, 30, making a total loss of 125. The Society had gained, by restoration of deprived Fellows by the Council, 10; by readmission by the Censors, 2; by new Fellows, 136, making a total gain of 148 and a net gain of 23. Adding this to the total membership June 14, 1922, namely, 4026, the membership on June 13, 1923, was 4049.

The findings of the Board of Trial, November 29, 1922, in the case of Philip A. E. Sheppard, late of Boston, were read by the Secretary of the Board, who is the Secretary of the Society. On motion by Dr. W. P. Bowers, duly seconded, it was *Voted*, That the findings of the Board of Trial in said case be affirmed, and that Philip A. E. Sheppard be, and is hereby expelled from his membership in the Massachusetts Medical Society, the vote being unanimous.

Dr. Charles C. Godfrey of Bridgeport presented his credentials as delegate from the Connecticut State Medical Society. He was introduced to the meeting by the President, bringing the good wishes of that Society to the Massachusetts Society. He thought that the closer the New England state medical societies keep together the better for their future; he would carry back to Connecticut the kindly greetings of Massachusetts.

The Secretary read to the meeting two letters from W. C. Woodward, Executive Secretary, Bureau of Legal Medicine, American Medical Association, with reference to the Veterans' Bureau and the employment of chiropractic. On motion by Dr. F. P. Denny the following resolves and order were passed unanimously:

Resolved, That the action of the Director of the Veterans' Bureau in taking steps to curtail the training of chiropractors in his bureau be commended.

Resolved, That it is in the interests of the veterans and of the public that all chiropractic treatment be abolished, as unnecessary, unscientific, and of no particular benefit.

Ordered, That a copy of these resolutions be sent to the President, to the Select Committee of the United States Senate on Investigation of the Veterans' Bureau, to both United States Senators, to the Representatives in Congress from Massachusetts and to the American Medical Association.

The Secretary read a letter, dated April 30, 1923, from John F. O'Ryan, Major-General, O.R.C., counsel of the Select Committee of the United States Senate on Investigation of the Veterans' Bureau, asking that from ten to twenty medical men in Massachusetts might be appointed to aid said committee by giving advice on special matters which might be referred to them. On motion by Dr. H. D. Chadwick, the appended motion was made, duly seconded and passed:

Moved, That in response to a request from Major General John F. O'Ryan, counsel for the Select Committee of the United States Senate on Investigation of the Veterans' Bureau, the President be, and he is hereby directed, to recommend to said committee from ten to twenty medical men of Massachusetts, of unquestionable character and professional standing, who will be willing to aid said committee, without compensation, by considering and giving their advice upon special matters which may be referred to them.

In accordance with the vote the President appointed the following: L. B. Packard, Brockton; C. H. Lawrence, Brookline; Albert August, Cambridge; J. E. Fish, Canton; A. S. Begg, West Roxbury; A. Myerson, Dorchester; R. W. French, Fall River; C. B. Gay, Fitchburg; S. O. Baldwin, Framingham; S. C. Cox, Holyoke; W. T. Hopkins, Lynn; M. A. Tigh, Lowell; Sumner Coolidge, Middleborough; E. F. Cody, New Bedford; J. B. Thomas, Pittsfield; S. H. Remick, Reading; B. T. Crane, Rutland; J. M. Birnie, Springfield; H. D. Chadwick, Westfield; M. T. Fallon, Worcester.

Dr. C. E. Mongan offered this resolution, which was discussed by Dr. Denny and by Dr. Mongan and was passed:

Resolved, That it is the sense of this meeting of the Massachusetts Medical Society that the District Medical Societies may, with benefit to their members, hold clinical meetings in their respective localities.

Mr. George H. Crosbie, agent of the United States Fidelity and Guaranty Insurance Company, addressed the meeting as to the progress of the insurance of the Fellows of the Society by that company. He said that about fifteen hundred policies had been written, and spoke of the advantage of all standing together in fighting the unjust suits that are brought against members of the profession.

Dr. J. S. Stone offered this resolution and it was passed unanimously: *Moved*, That the Massachusetts Medical Society desires to express its appreciation of the very cordial reception accorded to its members and guests by the Berkshire District Medical Society and the citizens of Pittsfield. The abundant provision made for the comfort and pleasure of our members and friends has made this meeting a notable event in the history of the Society and one which must inevitably increase its influence throughout the Commonwealth.

At one o'clock the annual discourse was delivered by Dr. Roger I. Lee, of Cambridge, with the topic, "The Physical Examination of Apparently Healthy Individuals, Its Importance, Limitations, and Opportunities."

The annual dinner was served in the main dining room of the Maplewood Hotel at two o'clock, to two hundred and seventy-four Fellows and guests. The President spoke of the early medical history of Berkshire, describing the Berkshire Medical Society, organized in 1787, its meetings, and the subsequent beginning of the Berkshire District Society. He sketched the successful course of the Berkshire Medical Institution from 1823 to 1867, mentioned the previous meetings of the parent society in Pittsfield in 1852 and 1863, which had been both profitable and enjoyable, and complimented the Berkshire Fellows and the Ladies' Committee for managing so well the present carefully planned convention which had brought so much honor to the Society and enjoyment to all. He introduced the Mayor of Pittsfield, Hon. Charles W. Power, who extended the greetings of the city to the Society; Dr. H. A. Garfield, President of Williams College, Congressman Allen T. Treadway of Stockbridge, and ex-State Senator Thomas F. Cassidy of Pittsfield. The exercises were brought to a close by the introduction of the President-elect, Dr. Enos H. Bigelow of Framingham Center.

The total registration during the two days of the meeting was three hundred and eighty-one

Fellows, and in addition wives and guests to the number of one hundred and fifty-nine.

Adjourned at 4.30 P.M.

WALTER L. BURGAGE, *Secretary*.

ADMISSIONS REPORTED FROM JUNE 14, 1922, TO JUNE 13, 1923.

Year of Admission.	Name.	Residence.	Medical College.
1922	Adams, Edward Augustus, Ayer		12
1922	Adeson, Garvey, Pittsfield		1
1923	Allen, Belle Jane, Westboro		10
1922	Amiral, Hiram Hygazon, Boston		11
1923	Archibald, Harry Nelson, Cheshire		22
1923	Baker, Henry, Boston		11
1922	Batal, John Thomas, Lawrence		12
1923	*Baxter, Clarence Pennell, Hyannis		12
1922	Benjamin, Aubrey Crane, Dorchester		11
1922	Bennett, Max, Chelsea		12
1923	Blake, Philip Warren, Andover		11
1923	Bonsquet, Franklin Philip, Worcester		12
1922	Butler, Harry Herbert, Brookline		10
1923	Butterfield, Clifford Allen, Medford		12
1922	Caldarone, Angelo, Lawrence		12
1923	Champ, Anthony Marius, Brockton		11
1923	Chatigny, Joseph Victor, Taunton		2
1922	Chereskin, Johnston Louis, Springfield		3
1922	Clarke, Thomas Greene, Fall River		12
1922	Clement, Samuel Anthony, Cambridge		10
1923	Coleman, Robert Martin, Boston		12
1923	Collins, John Francis, Marlboro		22
1922	Conway, Francis Bernard, Boston		12
1923	Coulson, Herbert, Lawrence		12
1923	Crisetliello, Modestino, Pittsfield		6
1923	Cuddy, Thomas, Dorchester		4
1923	Curley, John Joseph, Worcester		12
1922	Curtin, John Francis, Lawrence		12
1922	Doherty, Henry Leo, Stoughton		11
1923	Doroff, Louis Abraham, Chelsea		13
1922	Doyle, Frank William, Northampton		23
1923	Dumphy, John Joseph, Worcester		11
1922	Dunham, Rand Augustus, Salem		11
1923	Duncombe, William Colby, Stoneham	26 and 28	
1922	Durstchoff, Leonard Clamor, Chelmsford		24
1923	Eastman, Eugene Bruce, Portsmouth, N. H.	24	
1922	Fipphen, Earl Edward, Worcester		11
1923	Fossner, Mervin, Worcester		7
1923	Fuller, George Lester, Brockton		11
1923	Gaunt, George Arthur, Worcester		2
1922	Graves, Roger Colgate, Newton Center		8
1922	Halloran, Edward Joseph, Worcester		20
1923	Hayden, Edwin Parker, Boston		17
1923	Ghorimley, Ralph Kalb, Boston		6
1923	Green, Isadore, Hathorne		12
1923	Greene, David Dewey, Boston		11
1923	Grund, Jacob Leon, Roxbury		11
1923	Haire, Paul Gregory, Worcester		11
1922	Herrick, Van Buren, Worcester		22
1922	Hitchcock, James, Cambridge		11
1923	Holgood, Legan Henry, New Bedford		25
1922	Hooper, Raymond Ernest, South Boston		12
1922	Horrigan, Arthur Joseph, Springfield		20
1922	Isherwood, Ainsworth Varnum, Draeut		12
1923	Jackson, Henry, Jr., Chestnut Hill		11
1922	Joyce, Daniel Leo, Lowell		12
1923	Kaplan, Edward, Springfield		12
1922	Katz, Edward, South Boston		21
1922	Kazanjan, Vasaztad Hovhannes, Boston		11
1922	Kebabjian, Hrant Setrag, Boston		11
1922	Kelleher, Simon Bartholomew, Cambridge		12
1923	Kelly, John Joseph, Marlboro		12
1923	Kerkhoff, Edith, Attleboro		12
1922	King, Alfred Edward, Watertown		24
1922	Lake, Lafayette, Cambridge		25
1923	Lanigan, William Nicholas, Worcester		12
1922	Leech, Clifton Briggs, Fall River		10
1923	Le Marble, Albert Edward, Marlboro		12

Year of Admission.	Name.	Residence.	Medical College	Year of Admission.	Name.	Residence.	Medical College
1922	Liebman, Charles,	Boston	11	1922	Watt, William Godfrey,	South Deerfield	22
1923	Locke, Allen Winch,	Worcester	11	1923	Weber, Frederick Henry,	Stoneham	16
1923	Ljungberg, David Graham,	Worcester	10	1923	Weber, Mary Albright Jackson,	Stoneham	16
1922	Lyon, Arthur Bates,	Newton Center	11	1922	Weiner, Sidney Hertz,	Boston	11
1923	Mackler, David,	Taunton	12	1923	Wentworth, Caroline Young,	Newton Highlands	10
1922	Maguire, Thomas Joseph,	Lenox	11	1922	Wheeler, LeRoy Russell,	Boston	11
1922	Marcus, Jacob,	Roxbury	12	1922	White, Frank Dunster,	Milford	22
1922	Marcus, Saul Maurice,	Beverly	12	1922	Wiggin, Sidney Cushing,	Roxbury	11
1923	Marshall, John Ross,	Somerville	11	1922	Wise, John Magee,	Clifford	15
1923	Marshall, Orland Smith,	Lowell	12	1922	Yudelman, Abraham Harold,	Boston	12
1922	Maxfield, George Henry,	Chelsea	11	1922	Zacks, David,	Middleton	12
1922	McDonald, Ray Thomas,	Medford	12	1923	Zechurn, Isolde Therese,	Dorchester	27
1922	McGarry, Augustine Wilfred,	Boston	11				
1922	Meachen, John Willis,	Boston	11				
1922	Mudd, Stuart,	Cambridge	11				
1923	Murray, George Aloysius,	South Boston	11				
1923	Nadel, Samuel,	Boston	12				
1922	Novack, Hyman Allan,	Boston	12				
1922	O'Neil, Eugene Everett,	Boston	11				
1922	O'Toole, Thomas Henry,	Norwood	20				
1922	Parkins, Leroy Edward,	Boston	11				
1923	Pierce, Renel Alfred,	Worcester	10				
1922	Portnoy, Maurice,	New Bedford	12				
1923	Raskin, Nehama,	Waltham	30				
1922	Reis, Frederick,	Dorchester	12				
1922	Renaud, Ulric Joseph,	Brookline	5				
1922	Rice, Harry Edwin,	Springfield	9				
1923	Rich, Herbert Lowell,	Attleboro	12				
1922	Richardson, Guy Lewis,	Haverhill	17				
1923	Ritvo, Max,	Boston	11				
1923	Rogers, Harriet Emmeline,	Worcester	12				
1922	Romberg, Eli Charles,	Boston	11				
1922	Rondenu, Leo Garrigan,	Brighton	12				
1923	Rosenfield, Harold Herman,	Boston	21				
1923	Rothwell, Charles Robert,	South Boston	29				
1922	Rowell, Hugh Grant,	New Bedford	11				
1922	Ryan, Earl Francis,	Maynard	20				
1922	Shaw, Arthur Briggs,	Fall River	14				
1922	Skvirsky, Solomon Louis,	Bridgewater	12				
1922	*Smith, Lillian Richardson,	Lawrence	12				
1922	Spitz, Jacob,	Dorchester	12				
1922	Spiva, Charles,	New Bedford	12				
1922	Sporn, Abram,	Springfield	12				
1922	Sprague, Claire,	Boston	10				
1922	Stanhope, Alvin Hatch,	Middleton	22				
1923	Suarez, Jenaro,	Boston	10				
1922	Swartz, Jacob Hyams,	Dorchester	11				
1923	Sweeney, William Joseph,	Wakefield	12				
1923	Terhune, William Barclay,	Stockbridge	18				
1922	Thompson, Howard King,	Boston	10				
1923	Thompson, James Allan,	Worcester	12				
1922	Tober, Jacob Benjamin,	Springfield	12				
1922	Tomb, Everett Hale,	Clinton	19				
1923	Tooker, Harold Clifton,	Springfield	12				
1923	Twiss, Henry Irving,	Framingham	10				
1922	Vinal, Charles Renough,	Turners Falls	11				

Total, 134 + 2 = 136.

*Readmitted by the Censors.

KEY TO MEDICAL COLLEGES.

- 1 Albany Medical College.
- 2 College of Physicians and Surgeons, Boston.
(Action of Com. on Med. Educa. and Med. Dips.)
- 3 Loyola University School of Medicine, Chicago.
(Action of Com. on Med. Educa. and Med. Dips.)
- 4 Western Reserve University, School of Medicine.
(Action of Com. on Med. Educa. and Med. Dips.)
- 5 Bowdoin Medical School.
- 6 Johns Hopkins University Medical Department.
- 7 Long Island College Hospital.
- 8 Syracuse University College of Medicine.
- 9 New York Homeopathic Medical College and Hospital.
- 10 Boston University School of Medicine.
- 11 Medical School of Harvard University.
- 12 Tufts College Medical School.
- 13 Yale University School of Medicine.
- 14 Dartmouth Medical School.
- 15 University of Buffalo, Medical Department.
- 16 University of Colorado, School of Medicine.
- 17 Columbia University College of Physicians and Surgeons.
- 18 Tulane University.
- 19 University of Pennsylvania, School of Medicine.
- 20 Jefferson Medical College of Philadelphia.
- 21 University and Bellevue Hospital Medical College, New York.
- 22 University of Vermont College of Medicine.
- 23 Emory University School of Medicine, Georgia.
- 24 McGill University Faculty of Medicine, Quebec.
- 25 University of Maryland School of Medicine.
- 26 American Medical Missionary College, Chicago.
- 27 Woman's Medical College of Pennsylvania.
- 28 Royal College of Physicians and Surgeons, Edinburgh.
- 29 Royal College of Physicians and Surgeons, Ireland.
- 30 University of St. Vladimir, Kieff, Russia.

DEATHS REPORTED FROM JUNE 14, 1922, TO JUNE 13, 1923.

Admitted.	Name.	Place of Death.	Date of Death.	Age.
1919	Anderson, Frank William	Roslindale	Sept. 29, 1922	37
1892	Atwood, George Manley	Bradford	Dec. 23, 1922	66
1896	Bean, Charles Pierce	Boston	Jan. 12, 1923	58
1910	Bliss, George Dauforth	Baltimore, Md.	June 7, 1923	67
1885	Burton, Stephen Casper	Pittsfield	May 17, 1923	72
1874	Bush, John Standish Foster	Hartford, Conn.	Oct. 20, 1922	72
1862	*Calkins, Marshall	Springfield	Nov. 26, 1922	94
1916	Cody, Peter White	Lawrence	July 15, 1922	63
1906	Costello, John Henry	Dorchester	May 24, 1923	49
1887	†Crockett, Susan Elizabeth	Los Angeles, Cal.	July 15, 1922	87
1914	Cunningham, Joseph Henry	London, England	Aug. 28, 1922	55
1863	Deal, Edward Elvin	Winchester	Jan. 20, 1923	58
1882	Dolan, William Andrew	Fall River	Oct. 1, 1922	64
1885	Dow, George William	Lawrence	Nov. 21, 1922	71
1861	†Edes, Robert Thaxter	Springfield	Jan. 12, 1923	84
1893	Emerson, Herbert Clark	Springfield	Dec. 26, 1922	56
1881	Ernst, Harold Clarence	Plymouth	Sept. 7, 1922	67
1865	†Everett, Willard Shepard	New York City	Jan. 31, 1923	91

DEATHS REPORTED FROM JUNE 14, 1922, TO JUNE 13, 1923 (continued).

Admitted.	Name.	Place of Death.	Date of Death.	Age
1900	Finch, George Hardy	Springfield	Dec. 18, 1922	54
1880	Fogg, Irving Sylvester	Norwood	Dec. 20, 1922	70
1892	*Goodale, George Lincoln	Cambridge	April 12, 1923	83
1895	Greene, Thomas Francis	Roxbury	Oct. 24, 1922	60
1896	Hall, Herbert James	Marblehead	Feb. 19, 1923	52
1917	Hanson, William Greene	Everett	Dec. 18, 1922	65
1894	Hastings, Robert Worthington	Brookline	Oct. 13, 1922	56
1890	Hinckley, James William	Brookline	Feb. 7, 1923	65
1898	Howard, Eugene Henry	Pittsfield	Jan. 19, 1923	49
1885	Howard, Herbert Burr	Lynchburg, Va.	Mar. 6, 1923	67
1902	Johnstone, William Joseph	Jamaica Plain	Feb. 13, 1923	59
1897	Keenan, Herbert John	South Boston	Sept. 7, 1922	51
1884	Kilburn, Henry Whitman	Los Angeles, Cal.	Dec. 3, 1922	65
1874	† Kittredge, Thomas	Salem	Mar. 11, 1923	60
1887	Learned, William Turrell	Fall River	Aug. 14, 1922	61
1896	Lyons, Joseph Benedict	Charlestown	July 18, 1922	51
1908	Maloney, John Martin	Springfield	Dec. 15, 1922	41
1914	McLaughlin, Arthur Otis	Haverhill	June 18, 1922	37
1892	Miller, Charles Herman	Dorchester	Nov. 23, 1922	59
1870	† Nichols, Arthur Howard	Roxbury	Jan. 9, 1923	82
1893	Page, Albert Kidder	Arlington Heights	April 3, 1923	59
1892	Palmer, George Monroe	Lynn	Nov. 30, 1922	59
1885	Perry, Arthur Pedro	Jamaica Plain	April 1, 1923	64
1890	Pinkham, Joseph Gurney	Lynn	Nov. 30, 1922	83
1868	† Pratt, Calvin	Bridgewater	June 17, 1922	80
1892	Pratt, John Washburn	Dedham	Nov. 17, 1922	68
1907	Prince, Calvin Oliver	Plymouth	July 28, 1922	49
1889	Reynolds, Henry Vose	Brookline	Sept. 22, 1922	61
1896	† Rice, Albert Raymond	Springfield	April 30, 1923	82
1920	Rice, Robert	Haverhill	July 9, 1922	50
1873	† Rogers, Orville Forrest	Dorchester	March 23, 1923	78
1904	Safford, Wilber Pray	Brookton	Nov. 16, 1922	67
1889	Sargent, George Amory	Randolph, N. H.	May 6, 1923	68
1873	Shattuck, George Brune	Boston	March 12, 1923	78
1905	Shoninger, Lee Simon	New York City	April 7, 1923	43
1896	Silva, Francis Piera	Boston	July 13, 1922	55
1919	Simonds, Frederick Artemas	Wakefield	Dec. 2, 1922	34
1913	Slattery, John Richard	Newton (Auburndale)	Sept. 11, 1922	55
1874	† Smith, Samuel Finley	Indian Orchard	Jan. 22, 1923	75
1906	Smith, Stafford Baker	New York City	Feb. 29, 1920	36
1894	Smith, Thomas Burke	Lowell	May 21, 1923	53
1881	Stickney, Clifford Webster	Holden	April 9, 1923	67
1891	Sullivan, Michael Francis	Lawrence	Dec. 26, 1922	65
1890	Tigh, Frederick	Newburyport	March 2, 1923	60
1897	Young, Ernest Boyen	Boston	Jan. 17, 1923	53
1888	Zabriskie, Frank Hunter	Greenfield	Oct. 2, 1922	63
		Total 64		

†Indicates Retired Fellow.

*Honorary Fellow.

OFFICERS OF THE MASSACHUSETTS MEDICAL SOCIETY ELECTED JUNE 13, 1923.

President: Enos H. Bigelow, Framingham Center.
Vice-President: Ayres P. Merrill, 519 North Street, Pittsfield.
Secretary: Walter L. Burrage, 182 Walnut Street, Brookline 46.
Treasurer: Arthur K. Stone, Auburn Street, Framingham Center.
Librarian Emeritus: Edwin H. Brigham, Brookline 46.

STANDING COMMITTEES FOR 1923-1924.

OF ARRANGEMENTS

F. J. Callanan, Dwight O'Hara, J. C. Rock, L. S. McKittrick, W. T. S. Thorndike, James Hitchcock.

ON PUBLICATIONS AND SCIENTIFIC PAPERS

E. W. Taylor, R. B. Osgood, F. T. Lord, R. M. Green, A. C. Getchell.

ON MEMBERSHIP AND FINANCE

D. N. Blakely, A. Coolidge, Jr., Samuel Crowell, Gilman Osgood, Homer Gage.

ON ETHICS AND DISCIPLINE

Henry Jackson, David Cheever, F. W. Anthony, W. D. Ruston, S. F. McKeen.

ON MEDICAL EDUCATION AND MEDICAL DIPLOMAS

C. F. Palinter, J. F. Burnham, A. G. Howard, R. L. DeNormandie, H. P. Stevens.

ON STATE AND NATIONAL LEGISLATION

E. H. Bigelow, E. H. Stevens, F. E. Jones, J. S. Stone, T. J. O'Brien.

ON PUBLIC HEALTH

Victor Safford, Annie L. Hamilton, E. F. Cody, R. I. Lee, T. F. Kenney.

PRESIDENTS OF DISTRICT MEDICAL SOCIETIES.

Vice-Presidents (*ex officio*).

Arranged according to seniority of fellowship in the Massachusetts Medical Society.

Berkshire
Henry Colt
Middlesex North
J. B. O'Connor
Middlesex South
E. A. Darling
Suffolk
J. S. Stone
Worcester
A. W. Marsh
Plymouth
F. H. Burnett

W. W. Howell	Norfolk
F. M. McMurray	Worcester North
W. O. Hewitt	Bristol North
J. J. Bartley	Essex North
R. S. Benner	Hampden
R. B. Butler	Bristol South
S. W. Mooring	Essex South
J. E. Hayes	Hampshire
C. A. Sullivan	Norfolk South
Robert Chalmers	Middlesex East
H. D. Handy	Barnstable
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COUNCILORS, 1923-24.

ELECTED BY THE DISTRICT MEDICAL SOCIETIES AT THEIR ANNUAL MEETINGS, APRIL 15 TO MAY 15, 1923.

NOTE.—The initials M. N. C., following the name of a councilor, indicate that he is a member of the Nominating Committee. V.P. indicates that a member is a councilor by virtue of his office as president of a district society, and so vice-president of the general society. C. indicates that he is chairman of a Standing Committee. Ex-P. indicates ex-President.

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C. A. Sparrow, Worcester.
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J. J. Cummings, Worcester.
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WORCESTER NORTH.

D. S. Woodworth, Fitchburg, *Supervisor*.
T. R. Donovan, Fitchburg.

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R. A. Rice, Fitchburg.
F. H. Thompson, Jr., Fitchburg.

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1923-1924.

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BRISTOL NORTH, C. S. Holden, Attleborough.
BRISTOL SOUTH, D. P. O'Brien, New Bedford.
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NORFOLK, J. E. Fish, Canton.
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WORCESTER NORTH, C. H. Bailey, Gardner.

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SOCIETIES

ELECTED BY THE DISTRICT MEDICAL SOCIETIES BETWEEN
APRIL 15 AND MAY 15, 1923.

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South Yarmouth, *Secretary*; H. B. Hart, Yarmouth-
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Book Reviews.

Epidemiology and Public Health. A Text and Reference Book for Physicians, Medical Students and Health Workers, in three volumes. By VICTOR C. VAUGHAN, M.D., LL.D., Emeritus Professor of Hygiene, University of Michigan, assisted by HENRY F. VAUGHAN, M.S., Dr.P.H., Commissioner of Health, City of Detroit, and GEORGE T. PALMER, M.S., Dr.P.H., Epidemiologist for the Department of Health of the City of Detroit. Vol. II.—Nutritional Disorders, Alimentary Infections, Percutaneous Infections. St. Louis: C. V. Mosby Company. 1923.

There have been brought together in this volume and connected in an intelligent, logical and easily readable fashion, abstracts from historical and up-to-date literature regarding various diseases, among which are scurvy, beri-beri, pellagra, rachitis, endemic goiter, various forms of acute food poisoning, typhoid fever, dysentery and other infections of the alimentary tract, including sprue; many parasitic infestations, including clonorchiasis, hookworm disease, filariasis, malaria and yellow fever; and

other diseases, including tetanus, plague, Malta fever, typhus fever, trench fever, epidemic jaundice, rabies, etc. The bibliography is summarized at the end of each chapter. The work supplies a need, especially for purposes of reference, in that it brings together more information regarding the subjects which it treats than the usual book dealing with public health.

The public health worker looking for definite rules for controlling diseases may, however, feel disappointed in the book because it usually stops short of describing in detail administrative methods for attempting to control diseases, nor does it undertake to suggest the probable value of different methods which may be so employed.

Optotypes. Consisting of Test-Letters and Pictographs for Measuring the Acuteness of Vision. By JOHN GREEN, M.D., LL.D., Professor of Ophthalmology in St. Louis Medical College (Washington University), 1886 to 1913, and A. E. EWING, A.M., M.D., Professor Emeritus of Ophthalmology in Washington University. St. Louis: C. V. Mosby Company. 1923.

A descriptive pamphlet accompanied by 35 engraved plates of test-types and pictographs which embody the fundamental theory and classical notation of Snellen. There are certain modifications with a view to

(1) The elimination of unequal ratios of gradation by the adoption of gradation in geometrical progression.

(2) Simplification of the routine examination by providing varied sequences and arrangements of the test-letters, and of other characters.

(3) A conservative change in the typographical character in order to minimize the differences of legibility of the several test-letters.

The pamphlet gives a short review of some of the literature and also contains complete descriptions and explanations of the charts which accompany it.

Cunningham's Text-Book of Anatomy. Edited by ARTHUR ROBINSON, M.D., F.R.C.S. Edin. New York: William Wood & Co. 1923.

Previous editions of this standard anatomic text-book have from time to time been favorably reviewed in the JOURNAL. In this fifth revised edition appear the names of several new contributors. The sections on myology and the peripheral nervous system, originally written by the late Professor A. M. Peterson, have been largely rewritten by different authors; Professor Arthur Thomson's section on osteology has been rewritten by Dr. E. B. Jamieson; and the section on ductless glands, formerly revised by Sir Auckland Geddes, has been rewritten and

greatly enlarged by Professor J. T. Wilson. Other sections have remained in original hands; but those on the alimentary and vascular systems have been considerably recast. Dr. J. T. Goldthwait of Boston has contributed to the description of certain conditions of the vertebral column. This edition is illustrated by 1109 figures from original drawings, many of them new, 613 of which are printed in colors, and two plates.

The Chemistry of Urea. The Theory of Its Constitution, and of the Origin and Mode of Its Formation in Living Organisms. By EMIL A. WERNER, M.A., Sc.D., F.I.C., Professor of Applied Chemistry in the University of Dublin. London and New York: Longmans, Green and Company. 1923. Vol. xii, pp. 212. \$4.75.

The publication of this monograph, the most recent in the series on biochemistry edited by Plimmer and Hopkins, very fittingly falls on the 150th anniversary of Rouelle's discovery of urea.

Professor Werner has not only carefully reviewed the results of 150 years of work on the chemistry of urea, but gives detailed and convincing evidence that the time-honored carbamide formula must be discarded and a cyclic formula substituted. Since the distribution of urea is widespread in living matter, and it plays a considerable part in all nitrogen metabolism, an accurate conception of its molecular structure is of real importance. Until this is understood, theories of the mechanism of synthesis are built upon sand.

In order to demonstrate the validity of the cyclic formula, Professor Werner devotes a chapter to simple but crucial experiments which indicate that urea is not an immediate derivative of carbonic acid, but of cyanic acid. In the light of this work, the formation and behavior of cyanic acid in the protein metabolism of both plants and animals should receive far more attention than has been their lot up to the present.

The appendices of this volume afford valuable aids to the laboratory worker, giving not only the standard methods for the detection and quantitative estimation of urea, but a complete list of its physico-chemical constants.

This work is a worthy and welcome addition to the Monographs on Biochemistry.

Applied Psychology for Nurses. By DONALD A. LAIRD, Assistant Professor of Psychology, University of Wyoming. J. B. Lippincott Company. Lippincott's Nursing Manuals. Complete, practical, standard. Octavo, pp. 236, 49 illustrations. Cloth, \$2.50.

This book is dedicated to the nurse who would understand her own mental life, and to the pa-

tient, whose mental life should be understood by the nurse. It tells the Cause and Nature of Mental Ill-Health, Something about the Feeble-Minded, How to Use Suggestion, What Should Be Expected from Psychology in Medicine and Nursing, the Basis of Human Behavior, the Biological Foundations of It in the Origin of Man's Needs, Use and Abuse in Thought and How Behavior Indicates Mental Activities, the Temperaments in Nursing, and the Nurse and the Mental Health of the Nation.

The author has selected from the vast literature of psychology those facts of most immediate aid to nurses in understanding the patient, themselves and their fellow men.

It is inevitable that a series of manuals for nurses should contain certain volumes of less value than others. In the work under review Professor Laird attempts to cover far too much ground. As a result he discusses, in an inadequate and often flippant way, a series of problems of great complexity and importance. Books of this sort do no service to those for whom they are designed, but tend to confuse the untrained reader. In addition there is the objection that the reader may act on the following suggestion, which is printed in italics and large type: "Human actions are everywhere observable; no elaborate laboratory equipment is needed. Read and observe! Understand your observations through more reading! Then practice!"

New and Non-Official Remedies. Published by the American Medical Association. Pp. 415. Cloth. Price, \$1.50.

The 1923 edition of this valuable reference book is at hand. No description of the text is necessary, as it consists of a collection of the reports of the "Council for New and Non-Official Remedies," which have appeared in the *Journal of the American Medical Association*.

The introduction states the attitude of the Council in regard to the acceptance of new and non-official remedies, and gives the rules by which their decisions are guided.

The book will be sent postpaid by the American Medical Association, 535 No. Dearborn Street, Chicago, on receipt of \$1.50.

PUBLIC HEALTH NURSING IN THE PHILIPPINES.

UNTIL recently Philippine graduate nurses have had to come to the United States for post-graduate work in preparation for public health nursing. The University of the Philippines last year offered a course to graduate nurses, and the work has been successful and will be repeated. The Philippine Health Service, the Philippine General Hospital, the Bureau of Public Welfare, the Red Cross, and other organizations in Manila are coöperating with the University in providing for instruction in public health work.

Current Literature Department.

ABSTRACTORS.

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BRYANT D. WETHERELL

THE LATE RESULTS OF MENINGEAL HAEMORRHAGE OF THE NEWLY BORN.

CAMERON AND OSMAN (*British Medical Journal*, March 3, 1923) discussing the late results of meningeal haemorrhage of the newly born, draw the following conclusions:

1. Among cases of infantile diplegia or paraplegia it is possible to recognize a group in which the defect is confined to the sensorimotor cortical areas.
2. Probably all cases in this group are due to birth injury, although all cases of birth injury may not belong to this group.
3. Since education at first proceeds almost entirely by sensorimotor paths there is in early childhood a deceptive appearance of gross mental defect.
4. In later childhood progress may be rapid and recovery almost complete. The difficulty is overcome by the remarkable persistence in effort which is characteristic of most of these children. Even when voluntary movements remain stiff and awkward the child may be a quick learner by eye and ear. Inco-ordination may remain though character and intelligence may be on a high plane.

[R. C.]

TUBERCULIN IN THE DIAGNOSIS AND TREATMENT OF TUBERCULOSIS.

PHILIP (*British Medical Journal*, March 24, 1923) points out the value of percutaneous administration of tuberculin. He uses the tuberculin in the form of an ointment, and states that it absorbs readily through the skin, and is particularly good as regards children, and has a definite therapeutic value.

[R. C.]

TUBERCULOSIS OF THE LYMPHATIC SYSTEM.

PHILIP (*Edinburgh Medical Journal*, March, 1923) discussing tuberculosis of the lymphatic system, gives the following summary:

1. The part played by the lymphatic system in the early spread of tuberculosis requires to be emphasized.
2. Patients should be examined with that in mind, and the more important groups of glands should be systematically reviewed. In cases of general delicacy, all the readily accessible lymphatic glands should be carefully investigated.
3. In young children, the lymphatic system should be investigated with special care, from time to time.
4. Lymphatic tuberculosis, conspicuous in children, becomes less marked in later life.
5. In cases of gross enlargement of one or more glands, exacting search should be made into the state of adjacent glands and other groups of glands.

6. Operative treatment should be limited to emergencies—for example, the immediate removal of an ugly deformity in certain cases or the evacuation of an obviously softened gland.

7. Save in exceptional cases, such operative treatment should not involve extensive incision.

8. Operative treatment should not be regarded as radical.

9. Tuberculous involvement of the lymphatic system can be effectively combated by continuous vaccine therapy.

[R. C.]

ARTIFICIAL PNEUMOTHORAX: ITS VALUE IN EARLY STAGES OF THE DISEASE.

CROCKET (*Edinburgh Medical Journal*, March, 1923), emphasizes the value of pneumothorax in the early case of tuberculosis. He points out that it should not be reserved for the advanced and hopeless types; that it is safe, and should be practised more frequently in early cases.

[R. C.]

CONTRIBUTORY FACTORS IN POSTARSPHENAMIN DERMATITIS, WITH SPECIAL REFERENCE TO THE INFLUENCE OF FOCAL AND INTERCURRENT INFECTION.

STOKES AND CATHCART (*Arch. Dermat. and Syph.*, Vol. 7, No. 1, Jan., 1923) review 38 cases of cutaneous reactions of various types occurring in about 44,000 injections of arsphenamin. They give eleven case histories in detail and feel that the reactions to arsphenamin are not a function of the amount of the drug administered, as they tend to occur early in the course, when very little has been given; that mercury plays no part; that focal and intercurrent infections play a large part, as they found serious and even fatal results associated with generalization of a previously mild dermatitis following the stirring up of a focus of infection, and saw at least one severe case clear up immediately on removal of a focus. They propose a theory of the mechanism of postarsphenamin dermatitis based on an allergic instability or idiosyncrasy produced either by colloidal changes secondary to arsphenamin injection or by chronic or sudden absorption of a bacterial sensitizing protein from a focal or acute infection, as the fundamental premise.

[A. W. C.]

A STUDY OF EROSION AND GANGRENOUS BALANITIS WITH SPECIAL REFERENCE TO THE RÔLE OF FUSIFORM BACILLI AND SPIROCHETES.

BRAMS AND PILOT (*Archiv. Dermat. and Syph.*, Vol. VII, No. 4, April, 1923) give in detail with photographs the histories of four cases. They found that normal preputial secretions, particularly in men with long, phimotic, dirty foreskins, often harbor fusiform bacilli, spirochetes, and pyogens, which seem to be the same as are found in cases of erosive and gangrenous balanitis, some lowering of resistance changing them from saprophytes to pathogens. Early recognition and proper treatment with cleanliness, irrigations, soaking, free exposure to the air or oxidizing agents, and dorsal slitting if urgently necessary are imperative, as the process spreads with great rapidity.

[A. W. C.]

HYDROA VACCINIFORME SEU AESTIVALE.

SENEAR AND FINK (*Arch. Dermat. and Syph.*, Vol. 7, No. 2, Feb., 1923) give an excellent review of the subject from the literature and report two cases.

[A. W. C.]

EXPERIMENTAL PRODUCTION OF PARAFFIN OIL TUMORS
IN MONKEYS.

WEIDMAN AND JEFFERIES (*Arch. Dermat. and Syph.*, Vol. 7, No. 2, Feb., 1923) led on by reports of tumor formation reported by Stokes, Scholl and Cole, and others, from the use of paraffin oil accompanying mercury, etc., in subcutaneous and intramuscular injections, carried out some experimental injections in monkeys with paraffin, olive, and cottonseed oil. They find that the use of paraffin oil as a vehicle is attended with the danger of subsequent tumor formation, not dependent on the technic used but probably on individual predisposition, to prevent which the physician should insist that no mineral oils be used for such purpose. Clinically it has been found that the tumors undergo metastasis toward lymph nodes, or even distally—"retrograde metastasis," resembling tuberculosis or malignant tumor. The histology is essentially the same as the paraffinomas. They showed that in monkeys paraffin oil will produce tumors at the site of injection by inducing a foreign body granuloma. The oil may then be transported by lymphatic channels to regional lymph nodes and be deposited there, not always inducing granulomas en route nor ever inducing inflammatory reaction in the lymph nodes. Olive and cottonseed oil proved innocuous.

[A. W. C.]

DERMATITIS VENENATA, A STUDY OF THE TROPICAL
PLANTS PRODUCING DERMATITIS.

PARDO-CASTELLO (*Arch. Dermat. and Syph.*, Vol. 7, No. 1, Jan., 1923) lists 40 tropical plants from the Antilles causing irritation of the skin, with descriptions of the effect produced by the different groups and descriptions of the plant hairs which frequently aid in the differentiation of the causative plants. In some cases ingestion of certain parts of the plant seems to produce immunity.

[A. W. C.]

OBSERVATIONS ON THE KINKS OF THE URETER.

BARNEY (*Jour. of Urology*, February, 1923) cites two cases, in men, with kinks of the ureter. In the first there appeared in the x-ray a definite twisting of the ureter at the level of the lower pole of the kidney, with the ureteral catheter pulled down. Nephropexy gave relief and good looking post-operative ureterograms. The second was similar except that a vein of fair size, which was tied and cut, paralleling the ureter, may have interfered with the ureter.

Kinks of the ureter, or sharp and abnormal curves, may occur in men or women, on either side and in any portion of the ureter, although they seem to occur largely in its upper third. Such kinks can be demonstrated only by the injection of some opaque fluid into the kidney and ureter, but the ureteral changes can be shown only by withdrawing the ureter catheter to a point well down in the bony pelvis and injecting the ureter separately afterwards. Otherwise the catheter acts as a splint and obliterates the kink.

[B. D. W.]

DIATHERMY IN THE TREATMENT OF TUMORS
OF THE LOWER URINARY TRACT.

CORBUS (*Jour. of Urology*, March, 1923) shows that diathermy can be used to destroy cancer in areas that are totally inaccessible by any other procedure. In order to accomplish successfully the destruction of malignant tumors with thermic-electro-coagulation we must use a current that is low in voltage and high in amperes, only enough voltage being used to drive the current through the tissues. This, of course, va-

ries in different parts of the body. In coagulating tumors of the bladder by the low infusion of heat 1500 milliamperes are as a rule sufficient.

[B. D. W.]

THE TREATMENT OF CANCER OF THE BLADDER BY
RADIUM IMPLANTATION.

SMITH (*Jour. of Urology*, March, 1923) reports that the implantation in bladder cancer of bare tubes of radium emanation of low potency, or of radium-bearing needles of 5 mgm. each, will cause complete necrosis of the tumor, provided they are inserted 1 cm. apart and are so placed that the entire periphery of the growth is brought within reach of rays of lethal power. Two classes of cases are suitable for this treatment; small, single papillary carcinomata into the base of which bare emanation tubes may be deposited by intravesical methods; sessile carcinomata, or the bases of large fungating growths after destruction of the tumor by cautery into which radium may be implanted through a suprapubic cystostomy.

It is inadvisable to bring about the necrosis of a tumor more than 3 or 4 cm. in diameter, as the absorption of toxins from the infected slough is likely to prove fatal. The problem in treating cancer of the bladder by this method is to use enough radium to destroy the cancer, but not enough to destroy the patient. A number of cases of cancer of the bladder in which the growth could not have been excised successfully, have shown complete disappearance of the growth, clinically, following the implantation of radium.

[B. D. W.]

A NEW METHOD OF APPLYING RADIUM THROUGH THE
CYSTOSCOPE.

BUERGER (*Jour. of Urology*, March, 1923) gives in detail the method of introducing radium needles into vesical growths through the cystoscope; two 20 mgm. needles can be introduced at the same time. For the introduction of radium emanations a long flexible spiral wire applicator is recommended. Its distal end is a hollow needle into which the capillary glass emanation tube is buried, and throughout its length travels a wire mandrin that enables the operator to plunge the radium into the growth.

It is hoped that a report of a series of cases treated in the above manner will be reported in the near future.

[B. D. W.]

PARTIAL SPONTANEOUS INVERSION OF A DIVERTICULUM
OF THE BLADDER WITH DUMB-BELL STONE.

CROMPTON (*Jour. of Urology*, March, 1923) thinks diverticular stone may have gradually grown and protruded into the bladder, acting as a nucleus for the formation of the bladder portion of a dumb-bell stone. It is difficult to determine how almost complete inversion of the diverticulum into the bladder occurred. The inverted sac resembled a tumor mass, very malignant. Pathological reports of specimens taken were always "inflammatory tissue."

[B. D. W.]

THE TREATMENT OF MENORRHAGIA BY RADIUM.

BLACKER (*The Lancet*, March 3, 1923) discusses at length the limitations, technique, dosage, and results of radium in the treatment of menorrhagia. He finds it a valuable method for controlling haemorrhage at the menopause, in uncomplicated fibroid tumors of the uterus, and in controlling excess menorrhagia in young women which resists ordinary methods of treatment.

[R. C.]

JAUNDICE IN SYPHILITIC PERSONS RECEIVING ARSENICAL MEDICATION; ITS EARLY DETECTION AND POSSIBLE PREVENTION.

CHARGIN and ORGEL (*Arch. Dermat. and Syph.*, Vol. 7, No. 4, April, 1923) made nearly 1000 qualitative and quantitative determinations of the bilirubin content of the blood and urine to see if a rise above the normal could be detected and thus the complicating jaundice predicted and prevented. They find that it is possible by two tests carefully described to detect a rise in the bilirubin content of the blood; that a rise above 0.028 gm. per liter is a danger signal of a possible oncoming jaundice and should be used as a safeguard for patients receiving arsenical medication. [A. W. C.]

X-RAY EXAMINATION OF THE CHEST.

HUDSON and SUTTON (*The Lancet*, March 17, 1923), discussing x-ray examination of the chest, concluded as follows:

1. An inexpert opinion on a radiogram is valueless and often misleading.
2. A good radiogram of a normal chest shows distinct mottling and hilum shadows which need not be referable to tuberculosis.
3. A radiogram may sometimes demonstrate much more extensive disease than physical signs reveal, and may sometimes be the sole means by which a diagnosis can be made.
4. Radioscopy and radiography are essential before undertaking and during the continuance of artificial pneumothorax.

[R. C.]

THE THERAPEUTIC ACTION OF BISMUTH IN SYPHILIS.

LEVADITI (*The Lancet*, March 31, 1923) discusses at length the treatment of syphilis by bismuth. He concludes as follows:

Sodium and potassium tartrato-bismuthate and metallic bismuth achieve rapid centralization of syphilitic lesions at all stages of the disease. Although bismuth has only been recently employed, there is every reason to believe that, when used early and in sufficient quantity, it will cure syphilis. The absence of recurrences of the disease, and the effect on the W. R., only serve to confirm this opinion. Equal, from a therapeutic point of view, to arsenical preparations, better than mercurial preparations, bismuth is a valuable antisyphilitic remedy, particularly in those manifestations of the disease which resist the action of arsenic and mercury.

[R. C.]

LACQUER DERMATITIS.

PUSEY (*Arch. Derm. and Syph.*, Vol. 7, No. 1, Jan., 1923) reports a case, apparently not before reported in American or English literature, of a man whose hands were poisoned on two occasions by cheap novelties lacquered with Japanese lacquer, which is made from the *Rhus vernicefera*, a closely allied plant to our poison ivy. Clinically the case strongly resembled ivy or primrose dermatitis. [A. W. C.]

GERANIUM DERMATITIS.

ANDERSON (*Arch. Dermat. and Syph.*, Vol. 7, No. 4, April, 1923) reports in detail a case of poisoning of the skin by a member of this genus of plants, proven by cutaneous tests, thus adding another plant offender to the existing list. [A. W. C.]

THE WASSERMANN REACTION IN PREGNANCY.

HINTON (*Amer. Jour. Syph.*, Vol. 7, No. 1, Jan., 1923) studied the blood of 10,427 pregnant women in hospital practice, finding some degree of positivity in 8.1 per cent, as compared with 1.08 per cent. in 3701 U. S. Naval Aviation students and 49.19 per cent. in 862 inmates of the Massachusetts Reformatory for Women. He charts the cases also by age groups, and by race or nationality. He feels that with properly standardized cholesterinized antigens but a negligible number of false positive reactions in child-bearing women occur. [A. W. C.]

REACTIONS FOLLOWING ARSENOBENZENE ADMINISTRATION AND THEIR TREATMENT.

FRASER and DUNCAN (*Amer. Jour. Syph.*, Vol. 7, No. 1, Jan., 1923) present a very detailed account of this subject with a long bibliography. It cannot be reviewed to advantage. [A. W. C.]

INSTITUTIONAL EPIDEMICS OF BULLOUS IMPETIGO CONTAGIOSA IN INFANTS.

KNOWLES and MUNSON (*Arch. Dermat. and Syph.*, Vol. 7, No. 3, March, 1923) report two small epidemics in children's wards in Philadelphia hospitals, without any deaths, and emphasize the seriousness and high death rate reported by others in some epidemics and the need of most careful isolation and care on the part of nurses and attendants not to allow the infection to spread. [A. W. C.]

THE PATHOGENESIS OF MERCURIAL STOMATITIS.

BESSESEN (*Arch. Dermat. and Syph.*, Vol. 7, No. 3, March, 1923) reviews and discusses in detail the work and theories of previous investigators, then describes in detail the gross and microscopic changes induced in ferrets to whom mercury was fed. He is sure that the general systemic action is answerable for the lesions in the same degree as the local changes. [A. W. C.]

COMMON ERRORS IN DERMATOLOGIC TERMINOLOGY.

Fox (*Arch. Dermat. and Syph.*, Vol. 7, No. 4, April, 1923) presents a scholarly and yet very simple presentation of this subject, pointing out the errors all too frequently found in the literature. He presents the rules and exceptions, points out the most common errors, and ends by stating that "an extensive knowledge of Latin and Greek is not necessary to attain accuracy in dermatologic terminology. It requires only a small amount of study of an elementary Latin grammar to learn the correct endings of the great majority of dermatologic words." All this might just as well be made to apply to general medical writings. [A. W. C.]

EPITHELIOMA OF THE AURICLE.

MONTGOMERY and CULVER (*Arch. Dermat. and Syph.*, Vol. 7, No. 4, April, 1923) describe the anatomy and evolution of the ear and state that keratoses and epitheliomata are most common at Darwin's tubercle and other vestigial points. They find epithelioma of the auricle about half as common as the lip, 3 per cent. in women, with an average age of 60. The type is usually the basal cell and not very refractory, though some are very. Several unusual types are described. Most are very tender, unlike most epitheliomata. They advise x-ray or radium first, more conveniently radium, then the curette and caustics when needed after the more rapidly growing more embryonic cells are destroyed, to finish the eradication. [A. W. C.]

ARTIFICIAL PNEUMOTHORAX: ITS APPLICATION TO
CASES OTHER THAN THOSE OF PULMONARY
TUBERCULOSIS.

PERKINS AND BURRELL (*The Lancet*, March 10, 1923) give cases of abscess of lung, bronchiectasis, haemoptysis of unknown origin and pleurisy with effusion, which they have treated by artificial pneumothorax. They advocate artificial pneumothorax as a routine procedure in these cases, on the ground that it may be sufficient in itself, and, where not, that the symptoms are relieved; the general condition of the patient improved, enabling him better to face the severer operation.

[R. C.]

THE RESISTANCE OF HAIR TO CERTAIN SUPPOSED
GROWTH STIMULANTS.

TROTTER (*Arch. Dermat. and Syph.*, Vol. 7, No. 1, Jan., 1923) carried out some careful measuring experiments of hairs in relation to possible promotion of growth by certain external factors. She showed definitely that applications of petrolatum, exposure to sunburn, and shaving, have no effect on the growth of hair; the rate of growth differs in different regions and shows a positive correlation with the cross section.

[A. W. C.]

THE TREATMENT OF PRURITUS ANI WITH BACTERIAL
VACCINES.

KNOWLES (*Arch. Dermat. and Syph.*, Vol. 7, No. 4, April, 1923) reports the results of vaccine treatment of 18 cases of pruritus ani, following Winfield's and Murray's work on the subject. Five cases were cured by streptococcus fecalis bacterial injections, 11 received an insufficient number of injections, one was cured by injections of colon bacilli. They feel that injections of streptococcus fecalis vaccine offers the best means of cure in pruritus ani.

[A. W. C.]

POLYCYSTIC KIDNEY.

CRAWFORD, R. H. (*Surg., Gyn. and Obstet.*, February, 1923) writes as follows:

Polycystic kidney is congenital, and practically always bilateral. Cysts of the liver may accompany the condition. In foetal and infant life, hare-lip, supernumerary fingers or toes, club feet, etc., may be present, along with cystic kidneys.

Heredity plays an important rôle, and from my series of cases, I venture the opinion that it is a familial affection.

Surgical interference may be adopted—the cysts opened and drained, with temporary relief to the patient. Nephrectomy is not indicated, even though one kidney appears normal, because the remaining kidney almost invariably becomes cystic.

These patients are poor operative risks. The majority of them live to the third or fourth decade, and many have no symptoms other than a sense of fullness and hardness in the abdomen. The tumors are slowly growing formations, and are rarely seen between infancy and 18 years of age.

[E. H. R.]

CHRONIC EMPYEMA: ITS ETIOLOGY, PATHOLOGY, DIAGNOSIS, COMPLICATIONS, TREATMENT, AND FINAL RESULTS.

EGGERS, C. (*Annals of Surgery*, February, 1923) makes an extensive review of a large number of chronic empyema cases supervised and treated in the war hospitals of this country immediately after the close of the war. He draws especial attention to the treatment of fistulae or chronic sinuses, and to the

technic and results in the use of the Carrel-Dakin method. [E. H. R.]

SURGERY OF THE CHEST.

Archives of Surgery contains articles entitled "The Present and Future in Thoracic Surgery," "Surgical Treatment of the Esophagus," "Posterior Mediastinotomy," and "Teratoma of the Right Chest Cavity," which form a fairly good symposium on the surgery of this particular region, especially of the mediastinum. These articles are followed by an abstract of the discussion following them, and are of particular value to those interested in this particular branch of surgery.

These articles are followed by another group on lung abscesses, one of especial value by LeWald and Green on "The Differential Diagnosis between Tuberculosis and Lung Abscess," it being found that many cases of suspicious tuberculosis are in reality on study found to be cases of long standing lung abscess which can be entirely relieved by surgical treatment. Graham presents an interesting article on the subject of bronchiectasis, Meyer presents a long and valuable article on lung suppuration.

In fact, Part II of Number 1, Volume 6, of the *Archives of Surgery*, January, 1923, is devoted entirely to the surgery of the chest, and brings the subject, especially of obscure lesions, well up to date.

[E. H. R.]

CONSERVATIVE TREATMENT OF MIDDLE EAR INFECTION.

VON LIEBERMANN (*Wien. Klin. Woch.*, March 15, 1923), as a result of his clinical experience and observation, advocates conservative treatment of middle ear suppurations with small drum-perforation. He believes exenteration rarely indicated in such cases.

[R. M. G.]

THE PATHOLOGY OF LEISHMANIASIS OF THE NOSE.

KLOTZ AND LINDENBERG (*Am. Jour. of Trop. Med.*, March, 1923) have made a careful study of the pathology of the lesions at different stages of development. They emphasize the fact that nasal lesions are nearly always secondary to skin lesions which, however, may have appeared from a few years up to fifteen years earlier. The disease is very common in South America but has a local distribution. It is most often seen where forests are being cleared.

[G. C. S.]

THE PRESENCE OF YEAST-LIKE BODIES IN THE BLOOD OF
HUMAN BEINGS.

FLEISHER AND WACHOWIAK (*Am. Jour. of Trop. Med.*, Jan., 1923) report three cases of diarrhea in which yeast-like organisms were obtained in blood cultures and similar organisms from the stools. In the first case a definite diagnosis of sprue had been made. The other cases were atypical.

[G. C. S.]

YELLOW OLEANDER POISONING.

BANERJEE (*Ind. Med. Gazette*, Jan., 1923) reports a fatal case of yellow oleander poisoning, which is not uncommon in certain parts of India. The victim was given the drug by his wife with homicidal intent, the dose being disguised in colored spicy food (bean curry). The symptoms produced were a pungent and burning sensation in the mouth, dryness of the tongue and throat, dimness of vision, dizziness, vomiting and purging, unconsciousness, and death within three hours. Autopsy showed engorgement of the venous system, fullness of the right side of the heart with ante-mortem clot, congestion of the brain, liver, kidneys and stomach.

[L. D. C.]

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THE CASE RECORDS OF THE MASSACHUSETTS GENERAL HOSPITAL.

For several years past the weekly publication of these *Case Records*, giving in each, first the clinical history and a discussion of it, and then the autopsy findings, has been a great help to busy practitioners, who have few chances either for a critical discussion of their diagnoses or for a final testing by post mortem examination.

Too often in current medical literature we get accounts of brilliant successes, rather than of failures in diagnosis and treatment, which are of far higher educational value. Harbors are made safer for mariners not by records of prosperous voyages, but by buoying the dangerous reefs and sunken ledges that have caused disasters. If for nothing else, these *Case Records* are of exceptional value because of their honest acknowledgment of mistakes. In them one may either follow step by step the reasoning of the diagnosticians, or with the evidence that was in their possession he may make his own independent diagnosis. In either case, on turning the page, he has before his eyes the autopsy findings. As a mere intellectual exercise picture puzzles are not in it, in comparison.

The complete indexes of each volume make it possible, where one fears a fatal malady, to compare his patient's history and symptoms with the records of cases of the dreaded disease. This is as often a comfort as otherwise; for our fears as well as our hopes are often misleading.

Those who have learned to depend upon the stimulus thus afforded will greatly regret the recent announcement of the danger of discontinuance of these *Case Records*, for lack of financial support. We believe that were their usefulness more widely known the list of subscribers would be sufficiently increased to warrant their continuance. And we therefore suggest to our readers, who have not seen this publication, that they apply to the Massachusetts General Hospital for sample copies.

HYGEIA.

The June issue of *Hygeia*, the third number of the first volume, contains a number of names of prominence as authors of the articles, and shows that this journal, published for the laity by the American Medical Association, is keeping up the standards of excellence that it set at the beginning.

Haven Emerson, M.D., Professor of Public Health Administration at Columbia University College of Physicians and Surgeons and member of the Council on Health and Public Instruction of the American Medical Association, contributes the first article, a chatty dissertation on health examinations from the family standpoint.

"The Philippines and Health Ideas" is the subject of a contribution by Victor G. Heiser, director for the East of the International Health Board. The unspeakable health conditions of the Philippines before the battle of Manila Bay are reviewed, and the great improvement in sanitation that has come with the advent of the United States, particularly in the control of leprosy, the prevention of smallpox and the eradication of plague. More efficient vaccination against smallpox and proper treatment of leprosy are results of the governorship of Leonard Wood. It is an interesting commentary that the Philippines, administered by the government, now have more efficient health regulations than many of our cities at home.

Summer diarrhoea of infants is discussed by Victor P. Vaughan, and an article on breast feeding follows by Julius H. Hess, Professor of Pediatrics at the University of Illinois College of Medicine. "The Conquest of Hydrophobia" is the title of an article by Morris Fishbein, Associate in Medical History in Rush Medical College. This description of the dread of this disease that prevailed previous to the Pasteur anti-rabic treatment, and the processes by which Pasteur developed his immunizing virus, is largely drawn from Valléry-Radot's *Life of*

Pasteur. Illustrations are given from Sacha Ginty's play "Pasteur."

Chandler Walker writes on hay fever, and Arthur J. Cramp presents the third of his series of articles on "Patent Medicines," this time considering the part played by the testimonial. The second of Dr. E. V. McCollum's articles on "Scientific Nutrition and Public Health" follows.

The issue contains no less than thirteen editorials. The regular column of Health News and Views (illustrated) follows; there are nursery health songs, cartoons, book reviews, a page of Questions and Answers, a Health Review, and a humorous column.

Hygeia is not a medical journal—it is a live magazine, focussing on personal and public health. It will be an important and valuable factor in the health education of the laity if it is able to find its way into the homes of the people, onto magazine counters, into the railway trains, and everywhere that popular magazines are seen and sold. A great deal of its necessary advertisement and consequently its success will be due to the physicians of the country who believe in its usefulness and are willing to take the slight trouble of recommending its perusal.

THE COMMONHEALTH—BIOLOGIC PRODUCTS NUMBER.

Every physician is urged to read the Biologic Products Number of *The Commonwealth*, recently issued, and distributed free by the Massachusetts Department of Public Health. A very successful attempt has been made in this number to summarize existing practical knowledge concerning the theory and application of biologic products of known value, and the resulting pamphlet is certainly as useful and probably more comprehensive than the series of articles on biologic therapy issued by the *Journal of the American Medical Association* a year or two ago. Special emphasis is placed on the products manufactured and gratuitously distributed by the state, but useful commercial products that we do not manufacture for practical reasons are thoroughly considered, and those even of doubtful value are intelligently discussed. The series of short papers has been prepared by local authorities on the various subjects.

A brief foreword by Eugene R. Kelley, M.D., Commissioner of Public Health, prefaces the number, and Benjamin White, Ph.D., Director, Division of Biologic Laboratories, writes on General Theoretical Considerations of Vaccines and Serums, appending a complete table of the diseases in which biologic products for diagnosis, prevention, or treatment are available. Vaccination against smallpox is considered by Dr.

Milton J. Rosenau, well known as an authority on this subject. The subject of vaccination against typhoid and paratyphoid fevers is dealt with by Mark Wyman Richardson, M.D., who carried on some of the early work with these vaccines at the Massachusetts General Hospital; and the treatment of diphtheria is discussed by Dr. Bernard W. Carey, Director, Division of Communicable Diseases, of the State Department of Health. Dr. Richard H. Miller takes up the antitoxin treatment of tetanus, and Dr. James B. Ayer the serum treatment of meningococcus cerebrospinal meningitis. The section on vaccine and serum therapy in pneumonia, by Dr. Frederick T. Lord, follows, and Dr. George T. O'Donnell, State District Health Officer, considers rabies and anti-rabies treatment.

Other biologic products used in the prevention and treatment of disease are discussed by Dr. Robert N. Nye, formerly assistant director, Division of Biologic Laboratories. The policy of the state manufacture of biologic products is given by Dr. Kelley, and Dr. White concludes with the history and activities of the Antitoxin and Vaccine Laboratory, from its initiation in 1894 in the State House, under Dr. Walcott, its growth and development under Theobald Smith, to its present organization. The place it fills in state health, and its relationship to the physician, for it functions through the agency of the medical profession, are clearly placed before the reader.

This issue of *The Commonwealth* deserves more than passing mention, for it is of more than passing value. It should find its way to many bookshelves and serve its term as a reference work on this subject.

Miscellany.

AN EPIDEMIC OF PUERPERAL SEPTICÆMIA.

In the *Buffalo Sanitary Bulletin* for May, 1923, there is a report of an unaccountable epidemic among puerperal women confined in the various hospitals and maternities in Buffalo. It was not localized as to institutions or confined to any group of physicians.

Within a few days after delivery the afflicted mothers developed a temperature with a sudden rise to 100 C., and often to 104 C. or more. These temperatures have persisted for several days. A few women have died during and by reason of this epidemic.

The Department of Health of Buffalo has made a careful study of the situation and found the institutions and the doctors enthusiastically coöperative.

The results of the investigations are given in the following statements:

1. During the months of March, April and May this puerperal fever occurred in nearly every maternity in Buffalo with greater or lesser results. Naturally, the largest hospitals had the most cases.

2. The fever did not seem to be associated with the physician in charge of the case, for while he may have had a few cases in one hospital, he may not have had any in another.

3. The number of physicians in attendance upon the number of fever cases was large.

4. The period of infection above referred to corresponded to the time when most of our measles epidemic occurred in the city; there being 625 cases of measles in January, 955 in February, 1,457 in March, 1,157 in April and 785 in May, a total of 4,979 for the five months. To what extent, if any, this measles epidemic had to do with the puerperal epidemic is problematical; but inferences may be drawn from the fact that in some instances it was learned by the hospital authorities that some of these infected mothers came from homes in which measles existed—unknown to the hospital authorities. Several cases were recorded as developing a rash of measles or scarlet fever while in the hospital.

5. Some were midwife cases in which unsuccessful attempts at delivery had been made by the midwife, and the case then sent to the hospital.

6. Among the complications found in these parturients, having puerperal fever and other bad results, as shown by the case records at the hospitals, were:

Vincent's angina, placenta previa, postpartum hemorrhage, gonococcus, gonorrheal cervicitis, gonorrheal vaginitis, gonorrheal infection, pelvic peritonitis, salpingitis, pyelitis, pneumonia, septicaemia, sore throats, bronchitis, coughs, tonsillitis, grippe, acute nephritis, chronic nephritis, albuminuria, endometritis, acute dilatation of stomach and intestines, craniotomy.

7. Remarkable high temperatures, in some instances reaching 106°, were recorded, with recovery of patient, while those who died mostly showed lower temperatures.

8. Promiscuous visiting to maternity cases, especially by children, was almost universal.

After consulting with obstetricians, hospitals and maternities, the Buffalo Department of Health offers the following suggestions to all maternities:

1. Every parturient to be carefully examined on entering the maternity; such examination to include temperatures, urinalysis and vaginal smears.

2. Every parturient with a rising temperature, or showing any signs of infection, to be immediately removed to an isolation ward, preferably an outdoor pavilion.

3. Every parturient with a gonorrheal infection to be placed in a special ward kept for that purpose only.

4. A ward to be established for parturients having septic or contagious diseases requiring hospital care.

5. Doctors operating on pus cases, or in attendance on scarlet fever and other communicable diseases, be especially careful; or refuse obstetrical cases at such time.

6. Less promiscuous examinations of parturients by physicians and nurses; and agreed methods by the staff as to the technique to be followed by everyone examining; these to include the wearing of rubber gloves.

7. Cap and gown to be worn by all visitors to parturients.

8. No visiting children to be permitted on maternity wards.

9. Exclude every visitor coming from quarantined premises, or from premises where communicable diseases exist. To make this possible, the Department of Health will send daily reports of names and addresses of every communicable disease reported (except tuberculosis and venereal diseases), to every maternity and hospital. This will also assist maternities in isolating parturients coming from quarantined premises.

10. As some parturients may come to hospitals because of communicable diseases at home, others because no other place for confinement is available to them, it will become necessary to establish isolation maternity wards.

Since prevention is better than cure, these conclusions and recommendations may be accepted and adopted by all maternity hospitals and obstetricians, to the advantage of the patients and comfort of the physicians employed by such patients.

PUBLIC HEALTH WORK IN JAPAN.

Public health as a joint concern of medical and governmental authorities is an idea still unknown in Japan, according to Dr. Rijo Tazawa, director of the municipal tuberculosis sanatorium of Tokyo, who has been travelling across the country for the last few months to observe American methods of treatment and organization in tuberculosis work. The institution of which he has charge in the principal city of Japan now cares for about 500 pulmonary tuberculosis patients, but must be expanded to take care of 300 more. Dr. Tazawa, who has also investigated tuberculosis work in various European countries, has been studying especially equipment and feeding methods in American model institutions, and making cost comparisons.

The principle in health work which has most impressed this Japanese medical specialist in this country, and which he is anxious to see in operation in his own nation, is the coöperation which obtains between American health and other welfare organizations and the departments of government, and among local, state, and national health regulation bodies. Tuberculosis work in Japan, for instance, Dr. Tazawa says, has been largely till now a matter of local undertaking, and therefore has accomplished no great result. First steps toward a national association of tuberculosis workers are to be taken this summer.

Coöperation between health and educational authorities is also unknown in Japan, and it will require a rapprochement of a new and modern kind to coördinate their work, or to bring into being the kind of voluntary health and educational agencies from which in this visit he has been receiving suggestions of peculiar value from his standpoint for his own work in tuberculosis, especially among children. The child health work being done in America is extensively discussed in medical circles in Japan, and Dr. Tazawa is eager to initiate there the nutrition and tuberculosis preventive work, as well as the educational work for the safeguarding of child health, which he has seen here in the activities of the American Child Health Association, a national organization for the advancement of child health standards by practical demonstration and by education, of which he made a special investigation.

Dr. Tazawa sees great possibilities in coöperation between Japan and the United States in public health matters. On his return trip westward he attended the International Health Conference in San Francisco, June 20-July 6, in which medical, public health, and educational organizations of the leading nations of the world took part.—*Bulletin of the American Child Health Association*.

DIABETIC COLUMN.

When instructing patients in the use of insulin remember to tell them to change the site of injection of each dose. If the site of injection is kept constant there may develop an area of brawny induration which is slightly tender to touch and almost leathery to penetrate with a needle. Patients who develop such an area of localized induration may appear to become insensitive to insulin or to lose their tolerance. We have had two cases of this description, both of which were severe without insulin, both of which appear to do remarkably well for a time with the drug and both of which finally began to excrete increasingly larger amounts of sugar on a constant diet despite increasing doses of in-

sulin. On examination, we found that each had been receiving insulin in the extensor surface of the arms for a long period, and had developed areas of induration like those just described.

By changing the site of injection to the leg, the glycosuria disappeared and the lost tolerance was quickly regained. We now make it a rule to keep changing the point at which the insulin is injected, going from one arm to the other, and then from one leg to the other. In this way we avoid any local reaction, and appear to obtain full effect from the amounts of insulin injected.

REGINALD FITZ, M.D.

EX-PRESIDENTS OF THE TEXAS MEDICAL SOCIETY.

In the June issue of the *Texas State Journal of Medicine* a group picture of twenty-three ex-Presidents of the State Society is published. There was one absentee. These men have formed an organization and meet at luncheon during the annual session of the State Society. The combined ages of the ex-Presidents is 1425 years, which makes an average of 62 years. The average years of practice of the members of the group is 37½ years. Most of them are actively interested in the affairs of the State Society. Dr. Arthur Carroll Scott, the present President, is the fifty-sixth. The presidency of the Texas State Medical Society must be conducive to longevity. It would be interesting to know whether this large group of ex-Presidents exceeds the number of living ex-Presidents in the other states. We congratulate the State Medical Society on having so many capable counselors.

INTELLIGENCE TESTS ON MEDICAL STUDENTS.

The Tufts College Medical School has been conducting intelligence tests on the first year students. Later a study will be made from the data obtained relative to the correlation which exists between intelligence tests and marks given in the regular courses. The results will be interesting.

HARVARD UNIVERSITY APPOINTMENTS.

John H. Mueller, Ph. D., associate professor at Columbia University, has been appointed assistant professor of bacteriology at the Harvard University Medical School. Dr. Hilding Berglund has been appointed assistant professor of medicine.—*New York Medical Journal and Medical Record*.

CLINIC AT THE TRUESDALE HOSPITAL.

A clinic was held at the Truesdale Hospital on the afternoon of June 23 for members of the Barnstable County District of the Massachusetts Medical Society.

A three-hour program was given, consisting of the following:

A—Operative Clinic.

1. Cholecystectomy for Cholelithiasis. Demonstration of several stones which could not be felt during the operation by surgeon or assistants. The stones compared in size each with that of a c.e. pill.
2. Gastrojejunostomy for Indurated Ulcer of the Duodenum.
3. Cholecystectomy for Stone in the Cystic Duct with Hydrops of the Gall Bladder and Acute Inflammatory Changes.

B—Dry Clinic.

1. Result after the Smith-Petersen Operation of Arthrodesis for Tuberculosis of the Hip. Dr. Clarence C. McCreery.
2. A Case of Diabetes Mellitus with Acidosis and Impending Coma. Outline of treatment. Dr. William Mason.
3. Papilloma of the Bladder. The value of the cystoscope for early diagnosis when hematuria suggests the presence of this form of new growth. Dr. E. L. Merritt.
4. Subdiaphragmatic Abscess Following Operation for Acute Suppurative Appendicitis. Case 1. Approached by emergency thoracotomy after perforation into the lung had occurred. Recovery. Case 2. Approached by laparotomy before perforation. Patient convalescing one week after operation. Case 3. Traumatic rupture of the diaphragm repaired by the trans-thoracic approach. Dr. P. E. Truesdale.
5. Report of two cases of liver abscess. First case died two weeks after operation, second case now living three weeks after operation. Description of method of aspirating abscess and suturing edges of the opening into the liver to the parietal peritoneum. Dr. Elmer T. Learned.
6. Case of Banti's disease. Splenectomy in 1912. Recurrence in 1922 and 1923 of massive hemorrhages from the gastro-intestinal tract. Blood transfusion employed on each occasion with good effect. Dr. Warren G. Atwood.
7. Demonstration of x-ray plates. Dr. John H. Lindsey.
 - a. Open safety pin in gastro-intestinal tract of a child aged 3 years. Evacuated by rectum after 24 hours.
 - b. Demonstration of gall-bladder filled with stones in process of perforation into the intestine. Patient a female, aged 16 years. Two months later only a few stones remaining in the gall-bladder.

- c. Demonstration of Peptic Ulcer Pathology.
- d. Diaphragmatic Hernia.
- e. Acute Suppurative Mastoiditis.

There was an attendance of doctors from that section of the state, some from a distance of 60 miles or more, showing that such clinics are appreciated.

ANNUAL REPORT OF CHELSEA BOARD OF HEALTH FOR 1922.

This document, just received, is a concise and yet full report of an up-to-date health Department.

The general statistics dealing with mortality show that there were 582 deaths during the year and 44 still births. The death rate for 1922, calculated on a population of 43,184, the 1920 Federal Census figures, is 13.47. Excluding the 200 deaths of non-residents occurring in hospitals, the corrected death rate for 1922 is 8.84.

The report covering diseases dangerous to the public health is as follows:

DISEASES DANGEROUS TO PUBLIC HEALTH.

The number of cases of diphtheria reported was 116, an increase of 38 over last year's figures; 74 of these cases occurred in the last four months of the year.

Scarlet fever showed a small decrease, 120 cases; in 1921 there were 126.

There was a marked increase in the cases of measles, 398 during the year, 239 cases being reported in November and December. The actual number of cases occurring was probably much in excess of these figures because often only the first case in a family is reported, a physician not being called for the other children, and often no physician is called and the household rarely reports the case.

Whooping-cough increased from 37 to 56 in 1922. This probably represents but a small percentage of the cases occurring, because very frequently no physician is called.

Lobar pneumonia with 130 cases showed an increase, and there were 47 cases of influenza reported.

There was a slight increase in tuberculosis, all forms, from 95 to 101. There were 31 deaths from tuberculosis.

There were 16 cases of typhoid fever distributed throughout the year.

By the appointment of an additional medical inspector the Board will be in a position to proceed with diphtheria prevention work during the coming year. It is planned to Schick test all the children in the public and parochial schools where the parents' consent can be obtained, and to immunize all susceptible children. It is hoped also that public opinion can be

aroused so that children of pre-school age will be generally immunized. If a large proportion of the younger children can be immunized, there should be a noticeable decrease in the incidence of diphtheria.

NEW AND NONOFFICIAL REMEDIES.

Insulin.—An aqueous solution of an active principle from pancreas which effects sugar combustion. The strength of insulin is expressed in "units," one unit being one-third of the amount required to lower the blood sugar below 0.045 per cent. and cause convulsions in a rabbit weighing 2 kg. which has been previously starved for twenty-four hours. The administration of insulin to diabetic dogs and to man in severe cases of diabetes mellitus restores to the body the lost ability to oxidize carbohydrate, and glycogen is again stored in the liver. If insulin is administered at suitable intervals to a person suffering from diabetes mellitus, the blood sugar is maintained at a normal level and the urine remains free of sugar. Fat is also burned and, as a result, ketone bodies do not appear in the urine and diabetic acidosis and coma are prevented. The administration of insulin is indicated in cases of diabetes mellitus which cannot be controlled satisfactorily by dietetic treatment. Overdosage of insulin is followed by the development of serious symptoms which demand immediate treatment. Insulin is administered subcutaneously one, two or three times a day before meals. The dosage required to reduce the blood sugar to the normal level must be established for each patient by determination of the blood sugar before and after administration of insulin. In cases of coma or severe acidosis, an initial dose of 15 or 20 units of insulin may be given, followed at 3 to 4-hour intervals by smaller doses with simultaneous administration of glucose.

Insulin-Toronto.—A brand of insulin. It is marketed in 5 cc. vials containing 10 units in each cc., and in 5 cc. vials containing 20 units in each cc. Connaught Antitoxin Laboratories of the University of Toronto, Toronto, Ontario, Canada.

Quinine Ethyl Carbonate.—The quinine ester of ethyl carbonic acid. Quinine ethyl carbonate was first introduced as equinine. It is used in place of quinine sulphate and similar soluble quinine salts when a practically tasteless quinine compound is preferred.

Quinine Ethyl Carbonate—M. C. W.—A brand of quinine ethyl carbonate—N. N. R. Mallinckrodt Chemical Works, St. Louis, Mo. (*Jour. A. M. A.*, June 2, 1923, p. 1617).

Arsphenamine Mallinckrodt.—A brand of arsphenamine—N. N. R. (See New and Non-official Remedies, 1923, p. 46). It is marketed

in ampules containing respectively, 0.1 gm., 0.2 gm., 0.3 gm., 0.4 gm., 0.5 gm., 0.6 gm., and 1.0 gm. Mallinckrodt Chemical Works, St. Louis, Mo.

Barbital—M. C. W.—A brand of barbital—N. N. R. (See New and Nonofficial Remedies, 1923, p. 62). Mallinckrodt Chemical Works, St. Louis, Mo.

Cinchophen—M. C. W.—A brand of cinchophen—N. N. R. (See New and Nonofficial Remedies, 1923, p. 90). Mallinckrodt Chemical Works, St. Louis, Mo.

Mercuric Cyanide—M. C. W.—A brand of mercuric cyanide—N. N. R. (See New and Non-official Remedies, 1923, p. 194). Mallinckrodt Chemical Works, St. Louis, Mo. (*Jour. A. M. A.*, June 16, 1923, p. 1775).

Itelin (Insulin-Lilly).—A brand of insulin (See *Jour. A. M. A.*, June 2, 1923, p. 1617). It is marketed in 5 cc. ampules containing 10 units in each cc. and in 5 cc. ampules containing 20 units in each cc. Eli Lilly & Co., Indianapolis, Ind. (*Jour. A. M. A.*, June 23, 1923, p. 1851).

Amidopyrine—Abbott.—A brand of amidopyrine—N. N. R. (See New and Nonofficial Remedies, 1923, p. 250). It is marketed in substance and in 5-grain tablets. Abbott Laboratories, Chicago, Ill.

Epinephrin Chloride Solution—Abbott.—A solution containing epinephrine chloride, equivalent to 1 part of epinephrine in 1,000 parts of physiological solution of sodium chloride, preserved by the addition of benzoic acid and saturation with carbon dioxide. For a discussion of the actions, uses and dosage of epinephrine see New and Nonofficial Remedies, 1923, p. 112. Abbott Laboratories, Chicago, Ill. (*Jour. A. M. A.*, June 30, 1923, p. 1910).

RÉSUMÉ OF COMMUNICABLE DISEASES

MAY, 1923.

GENERAL PREVALENCE.

Chicken-pox, measles, scarlet fever, tuberculosis (pulmonary), and typhoid fever, of the more prevalent communicable diseases, showed an increase over last month in the number of cases reported. The more common diseases were reported as follows:

	May, 1923.	April, 1923.	May, 1922.
Chicken-pox	611	565	433
Diphtheria	594	509	558
Influenza	22	79	38
Pneumonia, lobar.....	342	463	416
Measles	4,360	3,865	4,159
Scarlet fever.....	1,472	1,419	755
Tuberculosis, pulmonary....	627	485	520
Typhoid fever.....	52	41	35
Whooping cough.....	1,240	1,481	415
Gonorrhea	404	354	378
Syphilis	177	138	140

RARE DISEASES.

Actinomycosis was reported from Boston, 1.
Anterior poliomyelitis was reported from Andover, 1; Newton, 1; Quincy, 1; Saugus, 1; total, 4.

Anthrax was reported from Concord, 1.

Dog-bite requiring anti-rabic treatment was reported from Boston, 3; Brockton, 1; Cambridge, 3; Chelmsford, 1; Chelsea, 4; Lawrence, 1; Lowell, 12; Medford, 1; Melrose, 1; Methuen, 1; Winthrop, 3; total, 31.

Encephalitis lethargica was reported from Boston, 5; Lynn, 2; New Bedford, 2; Plymouth, 1; Stow, 1; Swampscott, 1; Taunton, 2; Tewksbury, 1; total, 15.

Epidemic cerebrospinal meningitis was reported from Boston, 3; Chelsea, 1; Greenfield, 1; Holliston, 1; Lynn, 2; Newburyport, 1; Saugus, 1; Somerville, 1; total, 11.

Hookworm was reported from Boston, 1.

Malaria was reported from Boston, 1; Springfield, 1; total, 2.

Pellagra was reported from Boston, 1.

Septic sore throat was reported from Arlington, 68; Boston, 1; Cambridge, 2; Fall River, 1; Holyoke, 1; Lunenburg, 2; Medford, 2; Northbridge, 1; Quincy, 1; Somerville, 1; Worcester, 1; total, 81.

Tetanus was reported from Boston, 1.

Trachoma was reported from Boston, 3; Chicopee, 1; total, 4.

Trichinosis was reported from Leominster, 1.

DISTRIBUTION.

(ALL COMMUNICABLE DISEASES.)

	May 1923	May 1922
Total cases (all causes)	11,473	8,764
Case rate per 100,000 population	289.0	222.7

Certain Prevalent Diseases.

	May 1923	May 1922
Diphtheria:		
Total cases	594	558
Case rate per 100,000 population	15.0	14.2
Cities and towns noticeably exceeding their median endemic indexes.*		
Fall River	(12)	16
Boston	(210)	200
Braintree	(1)	4
Brookline	(2)	13
Chelsea	(4)	7
Peabody	(2)	6
Salem	(8)	11
Stoneham	(1)	3
Medford	(3)	7
Wakefield	(2)	7
Somerville	(14)	22
Waltham	(2)	6

	May 1923	May 1922
Measles:		
Total cases	4,360	4,159
Case rate per 100,000 population	109.8	105.7
Chatham	(0)	5
Dartmouth	(0)	4
Middleboro	(5)	47
Westport	(0)	5
Avon	(0)	9
Boston	(907)	1280
Braintree	(6)	34
Bridgewater	(1)	22
Brockton	(16)	215
Dedham	(3)	17
Easton	(0)	8
Framingham	(6)	13
Needham	(0)	24
Rockland	(0)	6
Wellesley	(6)	37
Wrentham	(9)	15
Amesbury	(0)	36
Everett	(31)	93
Georgetown	(0)	13
Groveland	(1)	98
Haverhill	(8)	388
Melrose	(3)	44
Newburyport	(12)	63
Saugus	(1)	15
Wakefield	(14)	51
Belmont	(1)	74
Chelmsford	(0)	24
Lawrence	(120)	188
Lowell	(29)	82
No. Andover	(0)	15
Wayland	(0)	14
Woburn	(3)	30
Worcester	(44)	293

	May 1923	May 1922
Scarlet Fever:		
Total cases	1,472	755
Case rate per 100,000 population	37.1	19.2
Fall River	(9)	20
Taunton	(4)	27
Bellingham	(0)	6
Boston	(182)	341
Cambridge	(25)	85
Newton	(7)	21
Quincy	(10)	39
Weymouth	(1)	24
Haverhill	(6)	28
Malden	(7)	31
Melrose	(2)	12
Arlington	(5)	15
Medford	(6)	29
Leominster	(1)	6
Northbridge	(0)	5
No. Brookfield	(0)	10
Spencer	(0)	5
Webster	(0)	28
Worcester	(28)	94
Agawam	(1)	7
Chicopee	(1)	9
Holyoke	(10)	34
Northampton	(2)	21
South Hadley	(0)	4
Springfield	(15)	39
Westfield	(0)	8
Lee	(0)	5
No. Adams	(1)	14
Pittsfield	(5)	22
Williamstown	(0)	7

	May 1923	May 1922
Typhoid Fever:		
Total cases	52	35
Case rate per 100,000 population	1.3	.9
Whooping Cough:		
Total cases	1,240	415
Case rate per 100,000 population	31.2	10.5
Dartmouth	(0)	10
Mattapoisett	(-)	46
Middleboro	(0)	33
New Bedford	(1)	12
Plymouth	(0)	19
Taunton	(1)	18
Ashland	(0)	10
Boston	(54)	177
Brockton	(10)	37
Brookline	(8)	61
Cambridge	(43)	74
Newton	(20)	148
Quincy	(2)	35
Haverhill	(9)	34
Swampscott	(2)	19
Athol	(0)	23
Hadley	(0)	8
Springfield	(17)	51
Greenfield	(0)	17
Stockbridge	(0)	24

	May 1923	May 1922
Tuberculosis, pulmonary:		
Total cases	627	520
Case rate per 100,000 population	15.8	13.2
Tuberculosis, other forms:		
Total cases	134	95
Case rate per 100,000 population	3.4	2.4

*The Median Endemic Index is obtained by arranging in arithmetical sequence the monthly totals of reported cases for the past five years and selecting the middle figure. The numbers in parentheses after the names of each city and town indicate the median endemic index for that city or town; the numbers without parentheses indicate the cases reported during the current month.

News Items.

BEVERLY HOSPITAL.—The monthly staff meeting was held at the Beverly Hospital, Tuesday, July 3, at 4 p. m.

CHANGE OF OFFICE.—Dr. Benjamin H. Alton announces the removal of his office to the Chapin Building, 29 Pearl Street (Rooms 407-8-9), Worcester, Mass.

DR. GEORGE B. MAGRATH, who has been ill with an infection contracted while performing an autopsy, is reported as much improved. The disease was so virulent that Dr. Magrath was obliged to resort to hospital care. The profession, as well as his personal friends, will be gratified to know of Dr. Magrath's recovery.

DR. CHARLES F. WILINSKY, Director of the Health Unit, Boston Health Department, left last week for a two-months' tour of the leading

cities of Europe, including London, Paris, Brussels, Rome, Milan, Antwerp, Vienna and Berlin. During such time he will study present health conditions abroad, as well as endeavor to ascertain how much effort is made there along the lines of preventive medicine, a subject of particular interest in the development of the health centre idea.

WEEK'S DEATH RATE IN BOSTON.—During the week ending June 30, the number of deaths reported was 201, with a rate of 13.60. There were 22 deaths under one year of age, against 15 last year. The number of cases of principal reportable diseases were: Diphtheria, 58; scarlet fever, 52; measles, 110; whooping-cough, 24; typhoid fever, 2; tuberculosis, 32. Included in the above were the following cases of non-residents: Diphtheria, 6; scarlet fever, 10; measles, 2. Total deaths from these diseases were: Diphtheria, 1; measles, 2; whooping-cough, 1; tuberculosis, 16. Included in the above were the following cases of non-residents: Whooping-cough, 1; tuberculosis, 1.

ATTENDANCE AT THE A. M. A. MEETING.—The daily bulletin showed that the following named Massachusetts men registered Monday, June 25: Arnold, Horace D., Boston, Fairmont; Baldwin, Herman T., Boston, Fairmont; Blodgett, John H., Boston, Fairmont; Brigham, C. S., Leominster, Bellevue; Burnham, J. Forrest, Lawrence, Palace; Chapman, William H., Boston, Fairmont; Christian, Henry A., Boston, Del Monte, Del Monte, Calif.; Cody, Edmond Francis, New Bedford, Palace; Croacher, Anna W., New Bedford, Fairmont; Crosby, L. M., Boston, Clift; Emerson, Paul W., Boston, Clark; Evans, Albert, Boston, Palace; French, Ralph W., Fall River, Manx; Greenwood, Allen, Boston, St. Francis; Griffin, Walter A., Sharon, Fairmont; Harvey, W. W., Boston, Claremont, Berkeley; Hubbell, A. M., Haverhill, The Court; Hunt, Frank H., Boston, Stewart; Jackson, Ralph W., Fall River, Drake; Johnson, Harold A., Lynn, Palace; Kelley, M. J., Watertown, 1111 Pine; Lancaster, Walter B., Boston, Clift; Lund, Fred B., Boston, Palace; McCormick, Cornelius J., Waltham, Fairmont; Mongan, Charles E., Somerville, Palace; Morse, Roy S., Ashland, Fairmont; Normand, Jean N., Fall River, Cadillac; Nye, Harry R., Leominster, Bellevue; Perry, Henry J., Boston, Colonial; Pierce, Frank B., Haverhill, Stewart; Reid, William Duncan, Boston, Herbert's; Round, Arthur M., Norton, Fairmont; Stetson, Halbert G., Greenfield, Palace; Sundelof, Ester M., Boston, Plaza; Traves, William H., Boston, Fairmont. Among the reference committee of the House of Delegates, Dr. Mongan is recorded as a member on Sections and Section Work, and Dr. Lund on Medical Education.

Obituary.

JUDSON WORTHINGTON HASTINGS, M.D.

DR. JUDSON W. HASTINGS, for more than forty years a practitioner in Feeding Hills, a village in Agawam, Hampden County, died at his home, July 3, 1923, at the age of seventy. Dr. Hastings was born in Suffield, Conn., June 13, 1853, the son of Joseph Creighton and Orpha Worthington Hastings, in the eighth generation from Thomas Hastings, who came to Watertown in 1634. He prepared for college at the Connecticut Literary Institution at Suffield, graduating in 1872, when E. Benjamin Andrews was principal.

Entering Brown University, he was graduated with the class of 1876. After a year of teaching as principal of the high school at Broad Brook, Conn., he took up the study of medicine, at first privately with Dr. J. K. Mason of Suffield, and then at the College of Physicians and Surgeons, Columbia University.

In November, 1880, Dr. Hastings went to Feeding Hills and began the practice of medicine. He quickly built up a large clientele and for many years served a large territory. In the last three years, failing health had made it necessary for him to give up his work.

In 1886 he was elected town clerk and treasurer of the town of Agawam, and held the office without break for 26 years, retiring because of the greatly increased burden of work, in 1912. In 1902 he was also made tax collector of the town, an office from which he retired in 1912.

He was instrumental in the establishment of the Agawam Free Public Library, and served as its first trustee. He was much interested in local history and had prepared a genealogy of the Hastings family, which, however, has not been published.

He was a member of the Delta Upsilon Fraternity, the Hampden County District Medical Society and the Massachusetts Medical Society, his name being placed on the retired list in 1918.

Dr. Hastings married in November, 1880, Mary Matilda Thomson of Monterey, who died June 2, 1892. On Feb. 27, 1896, he married Anna Submit Hastings of Rupert, Vt., who died March 13, 1913. In 1916, he married Nettie E. Demond of Feeding Hills, who survives him. He also leaves his brother, Charles W. Hastings, postmaster at Agawam, and five children by his first wife.

ALBERT NOVATUS BLODGETT, M.D.

Dr. Albert N. Blodgett was born at Guildhall, Vt., February 18, 1848, and died at his home in Boston, July 3, 1923, thus being 75 years old. He had been in poor health for several years and had been confined to his room for a series of months.

He was a member of the class of 1871, Harvard Medical School, and served subsequently as a house officer at the Massachusetts General Hospital. For two years he was physician to the House of the Good Samaritan. Settling in Boston, he joined the state medical society and began general practice. He was the first superintendent of the Massachusetts Charitable Eye and Ear Infirmary and acted as secretary of the Suffolk District Medical Society for twelve years, being most assiduous in his duties. He had a lifelong interest in the Boston Medical Library, in later years spending much of his leisure at that institution. At different times he presented the library with several valuable manuscripts and a master clock for the entrance hallway.

Correspondence.

THE CADUCEUS.

Worcester, Mass.

Mr. Editor:

In connection with the automobile insignia discussion now going on in your columns, please allow me to add a word.

Dr. Garland, in your last issue, has to my mind expressed the sentiments of the majority of the physicians who are using the insignia. Certainly those of us who wore the caduceus in the Army did not suffer from our "jarred aesthetic senses."

In the same issue Dr. Bowditch suggests "an emblem that can be easily removed, and that it should not be used except when the car is in professional use."

The writer believes that the physician is a public servant, and should at all times be ready and willing to respond to the call for first aid whenever and wherever the emergency arises. The physician should be known by the emblem on his car, whether he is on his professional rounds or on a vacation. To illustrate: Dr. Atwood and the writer, while on an outing on the top of Mt. Wachusett, were discovered by the emblem on their cars, and were able to give first aid to a severely injured motor cyclist half way down the mountain.

The Worcester District Medical Society has officially adopted the A. M. A. caduceus, and the majority of its members are now wearing it on their cars. This caduceus has the words "Worcester District Medical Society" on the margin of the emblem.

If the physician would use the emblem as a means of more efficient service to their fellow men, rather than to secure special privileges from the police, it would aid in reaffirming our ancient code of ethics.

Roy J. Ward.

ARTICLES ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY.

Mr. Editor:

In addition to the articles enumerated in our letter of May 29th, the following articles have been accepted:

Abbott Laboratories:

Amidopyrine—Abbott: Tablets, 5 Grains.

Epinephrin Chloride Solution—Abbott.

General Chemical Co.:

Sofos.

Eli Lilly & Co.:

Helin (Inulin-Lilly): H-10:5 cc. ampules; H-20:5 cc. ampules.

Powers-Weightman-Rosengarten Co.: Sulphar-sphenamine Billion : 0.1 gm. ampules; 0.2 gm. ampules; 0.3 gm. ampules; 0.4 gm. ampules; 0.5 gm. ampules; 0.6 gm. ampules.

W. A. PUCKNER, *Secretary*,
Council on Pharmacy and Chemistry, A. M. A.

THE AMERICAN MEDICAL ASSOCIATION MEETING.

The Palace, San Francisco,
June 28, 1923.

Mr. Editor:

Weather has been fine, nights cool, and local committee furnished excellent entertainment.

Dr. Morgan withdrew his amendment to the Constitution, proposed last year, which would deprive sections of independent representation in the House of Delegates.

Sessions of the House have been quiet and productive of constructive work.

All Massachusetts Delegates attended.

Balloting for President: W. A. Pusey, Ill., 66;
W. D. Haggard, Tenn., 62.

E. F. C.

CELEBRATION OF THE ONE HUNDREDTH AN- NIVERSARY OF THE MEDICAL SOCIETY OF GENEVA.

Geneva, May 30, 1923.

Mr. Editor:

On the 12th and 13th of this month the Medical Society of Geneva celebrated its one hundredth anniversary, and for this occasion the Congress of Swiss Physicians met in the city of Calvin. Among the papers read I will give you a summary of three which are of particular interest and have not as yet been published.

Professor Beuttner, of Geneva, presented the question of "The Wertheim Operation or Curietherapy?" He stated that from 1903 to 1914, Wertheim's operation was the treatment of choice for cancer of the cervix at the Gynecological Clinic of the University of Geneva, but since 1914 it had been given up for curietherapy in operable cancer.

Now, what have been the results obtained from each of these therapeutic procedures? As to the Wertheim operation, the ultimate results have been published by Koutine (Thesis, Geneva, 1913) from 1906 to 1912, this including cases of cancer of the *corpus uteri*. Out of a total of twenty Wertheim's there were four postoperative deaths, a mortality of twenty per cent. Eleven patients died from eight months to three years and six months after the operation. Only four patients were alive at the time (1913) the thesis was published, namely: One patient alive six years and five months after operation, the second one year and ten months, the third five months and the fourth two months. No news has since been obtainable regarding the last three patients, so that taking into consideration this fact Beuttner is obliged to suppose that a recurrence of the disease has surely occurred. Consequently, to date (1923) Beuttner has had but one entirely satisfactory result from this operative procedure.

If these operative results are now compared with those Beuttner has obtained with curietherapy, we have in a first series of sixty-three cases, seventeen patients presenting an operable cancer, or at the limit of operability. Of these seventeen patients, nine died after a survival varying from six to sixty and a half months after the first application of the radium, while eight—practically 50 per cent.—are still alive, otherwise from 60 to 87 months since their treatment. No death has occurred imputable to curietherapy.

Given these results, and especially keeping in mind

the fact that the technique of Wertheim's operation has reached its culminating point, while curietherapy is still a new procedure with a still imperfect technique, Beuttner assumes that it is logical to conclude that, in his clinic at least, radium treatment should be the only treatment resorted to, for both operable and inoperable uterine cancer, and he wishes that other gynecologists might adopt this view. Were women aware that they could be treated without operation, undoubtedly they would seek the surgeon in the early stages of cancer of the uterus.

Dr. L. Stern, professor of physiological chemistry at the University of Geneva, spoke on "The Hemato-Encephalic Barrier from the Physiological and Clinical Viewpoints." Referring to her previous researches, particular mention should be made—on account of its clinical and therapeutical importance—that it was found that following intravenous injections of various substances, direct nervous effects only ensued when the substance could be found in the cerebrospinal fluid. In these circumstances it could also be detected in the nervous elements. On the other hand, many substances which, injected into the general circulation are devoid of effect upon the nervous centers and could not be detected in the cerebrospinal fluid, produced severe effects in these centers, causing death in a short time, when injected directly into the spinal canal, and especially the ventricular cavity.

Hence the innocuity of certain substances for the nervous system is not due to the resistance or insensibility, of the nervous elements, but to the efficacious protection exercised by the barrier.

This protective action—which is easily demonstrated in the case of foreign substances introduced into the general circulation—probably also governs substances belonging to the organism and resulting from the activity of various organs—hormones, antibodies, ferments, etc.

Detailed analyses of the cerebrospinal fluid have shown that many of these bodies, which circulate normally in the blood, are completely wanting in the cerebrospinal fluid. Direct contact of these substances with the nervous elements is not always inoffensive, because experiments have shown that the introduction of extracts of certain endocrine glands into the cerebrospinal fluid (ventricular space) produce intense disturbances.

Thus the barrier shows itself to be a regulator of the normal composition of the cerebrospinal fluid, whose constance is an essential factor in the activity of the nervous elements. Various nervous and psychologic disturbances may be explained by passage of certain substances into the cerebrospinal fluid—products of the internal secretions—thus coming in contact with the nervous centers.

On the other hand, other phenomena may be attributed to a reinforcing of the barrier, resulting in a more or less complete absence of certain substances which normally enter the cerebrospinal fluid from the blood and exercise a stimulating or moderating action on the nervous centers.

An increase of the resistance offered by the barrier to the passage of certain substances in the blood into the cerebrospinal fluid may thus cause certain disturbances of the activity of the nervous centers, resulting in depressive phenomena. Thus acquired immunity to the continued use of poisons, such as alcohol, morphine, arsenic, etc., may be explained by the resistance offered by the hemato-encephalic barrier, thus protecting the nervous elements against the poison. Stern's experiments have shown that when the normal functions of the barrier were disturbed by morbid changes produced by a chronic intoxication, the resistance of the barrier is often increased. In acute intoxication from the toxins of diphtheria, tuberculosis, or tetanus there is a marked decrease of the normal resistance, as ferrocyanide injected into the general circulation could be detected in the cere-

brospinal fluid, which does not occur normally. It is to be noted that with the toxin of tuberculosis the decrease of resistance of the barrier only occurs during the period of hyperthermia and disappears when the temperature becomes normal.

The protective influence of the barrier in normal circumstances may become unfavorable when certain medications, such as antitoxins, or other things given intravenously, are prevented from reaching the cerebrospinal fluid. In order to avoid the resistance of the barrier the medicament should be directly introduced into the part upon which its action is desired, namely, into the cerebrospinal fluid or in different portions of the cerebrospinal system. The results vary, and are frequently contradictory, due to the fact that they were injected in most instances into the lumbar sac. Now, in order to obtain constant and general effect on the entire cerebrospinal system the drug should be injected directly into the ventricular space, especially the lateral ventricle. The technique is simple, and minute doses of a given drug are effective without in any way producing destruction of the part injected.

The third and last paper to which I would call attention was read by Dr. C. Saloz on "The Bordet-Wassermann Reaction." Although a great aid in diagnosis, its value is not absolute, it being merely a symptom which must invariably be interpreted. By systematically carrying out the reaction in all affections encountered in a service of general medicine, Saloz comes to the conclusion, based on over 2,000 cases, that the most rigorous methods do not prevent surprises, either that a positive result is obtained when the patient is not syphilitic, or negative when there is an authentic late tertiary or quaternary syphilis in evolution.

Only diseases having deglobulization or a profound change in the tenor of the humors may give rise to a positive reaction in patients without syphilis. In paludism and paroxysmal hemoglobinuria the reaction is usually only positive during the paroxysm. With their deglobulizing effect, there is also a marked colloidal disturbance, but the reaction is quite as temporary as these humoral changes. A permanent deglobulization explains the persistent positive reactions observed in 50% of hemolytic icterus and Banti's type of splenomegalic anemia. This high positive percentage is also found in chronic venous cirrhosis, but Saloz does not admit the alcoholic-syphilitic etiology Laennec's and Hanot's cirrhoses because the cerebrospinal fluid is always normal and a negative reaction frequently becomes positive with the progress of the hepatic process. The same applies to positive reactions in the nephritisides, cancer and diabetes.

A negative reaction, after several essays at reactivation is of no value. The proportion of negatives in Saloz's researches were: in aortitis, 24%; in aneurysm, 34%; a case of aneurysm and aortitis in full evolution gave a negative in the blood and cerebrospinal fluid. In Stokes-Adams disease the negatives amounted to 75%.

Out of a total of 56 cases of general paralysis, the cerebrospinal fluid was negative only once, and 14 times in the blood. The negative cerebrospinal fluid is absolutely exceptional. Thus in three cerebrospinal reactions (albuminose, cytology and Wassermann) the deviation of the complement is far more important, because when negative it nullifies the diagnosis of lues. Exceptionally the reaction is positive while the cell count and albumen percentage are normal, but this state of affairs is transitory.

In tubes dorsalis Saloz had 22% negatives; in 56% of the cases the results of the blood and cerebrospinal fluid concurred; in 38% the blood was negative and positive in the cerebrospinal fluid, while in 4% the inverse condition was present. This latter condition makes tabes comparable with gummosis or arterial cerebrospinal syphilis.

To conclude: Positive reactions in asyphilitic subjects and negative results in syphilis do not diminish the clinical value of the Bordet-Wassermann. The former are merely transitory or occur at the terminal phase of a morbid process in which no hesitation as to the diagnosis can be entertained. The latter are too infrequent to in any way detract from the value of the method. The cerebrospinal fluid is the best guide for the clinical interpretation of the results of a Wassermann, since other than when syphilis is present the cirrhoses, diabetes and nephritisides cannot extend their power of fixation through the hemato-encephalic barrier.

CHARLES GREENE CUMSTON.

ACKNOWLEDGMENT OF BOOKS FOR REVIEW.

THE JOURNAL acknowledges the receipt of the following books for review:

Translation of Selected Passages from De l'Auscultation Médiate. R. Théophile H. Laennec. New York: Wm. Wood & Co. 191 pages. Price \$3.75.

Anaesthetics in Practice and Theory. Joseph Blomfield. Chicago Medical Book Co. 416 pages. Price \$7.50.

A Text-Book of Therapeutics, Including the Essentials of Pharmacology and Materia Medica. A. A. Stevens. Philadelphia and London: W. B. Saunders Co. 793 pages. Price \$6.25.

A Simple Treatment for Tuberculosis. Owen F. Paget. New York: Wm. Wood & Co. 80 pages. Price \$1.75.

Chirurgie des Voies Biliaires. Henri Hartmann. Paris: Masson et Cie. Éditeurs. 356 pages. Price, 30 fr.

A Text-Book of Pharmacology and Therapeutics. E. Poulson. London: Wm. Heinemann. 519 pages. Price 25/ net.

Medical Axioms, Aphorisms and Clinical Memoranda. James Alexander Lindsay. New York: Paul B. Hoeber. 192 pages. Price \$2.25.

International Medical Annual—Year Book of Treatment and Practitioner's Index, 1923. New York: William Wood & Co. 546 pages. Price \$5 net.

The Tuberculosis Worker, Philip P. Jacobs. Baltimore, Md.: Williams & Wilkins Co. 314 pages. Price \$3.

Urgent Surgery. Félix Lejars. New York: William Wood & Co. 808 pages. Price \$16.

The Infant and Young Child—Its Care and Feeding from Birth Until School Age. John Lovett Morse, Edwin T. Wyman and Lewis Webb Hill. Philadelphia and London: W. B. Saunders Co. 271 pages. Price \$1.75.

Practical Morbid Histology—A Handbook for the Use of Students and Practitioners. Robert Donaldson. London: Wm. Heinemann, Ltd. 364 pages. Price 15/.

Chronic Fatigue Exhaustion. Edward H. Ochsner. New York, London, Leipzig and Paris: G. E. Stechert & Co. 143 pages.

NOTICES.

BOSTON HEALTH SHOW.

The Mayor and Health Commissioner of Boston have arranged with the National Health Shows, Inc., for the Boston Health Show, October 6 to 13, 1923, in Mechanics Building, Boston. Lectures, moving pictures and exhibits

will bring home in an unique and striking way the lessons of health and its importance. The following copy of the circular sets forth in a brief way the scope of the undertaking:

Felix Mendelsohn, Managing Director.

EXECUTIVE COMMITTEE.

Francis X. Mahoney, M.D., Chairman, Boston Commissioner of Health.

Eugene R. Kelley, M.D., Mass. Commissioner of Public Health.

Lila Owen Burbank, M.D., Chairman, Child Welfare Committee, Boston League of Women Voters.

Miss Mary Beard, Director of Instructive District Nursing Association.

Mr. Henry Copley Greene, Executive Secretary, Health Service, Metropolitan Chapter American Red Cross.

BOARD OF CONTROL.

Health Exhibit Committee of Boston: C. Morton Smith, M.D., Samuel Clement, M.D., Wm. W. Howell, M.D., Mr. Robert W. Kelso, Miss Gertrude L. Farmer, Mr. Horace Morison, Mary R. Lakeman, M.D., Mr. G. H. Roehrig, Miss Ruth Page Sweet, Mr. Donald North, Miss Martha W. Willett, Mrs. Eva Whiting White.

Public Health Education, Milton J. Rosenau, M.D., Chairman, Professor of Preventive Medicine, Harvard Medical School.

Health Centres, Charles F. Wilinsky, M.D., Chairman, Director, Boston Health Unit.

Biologic Therapy, George P. Sanborn, M.D., Chairman, Director of Department of Immunology, Boston City Hospital.

Sanitation, Thomas Jordan, Chairman, Director, Sanitary Division, Boston Health Department.

Child Hygiene, Miss Winifred Rand, Chairman, Director, Boston Baby Hygiene Association.

Prevention of Blindness, Charles B. Hayes, Chairman, Director, Division of Blindness, Massachusetts Department of Education.

Physical Education, Oliver L. Herbert, Chairman, Physical Director, Boston Young Men's Christian Union.

Recreation, Mrs. Eva Whiting White, Chairman, General Director, Community Service of Boston, Inc. Education, Jeremiah E. Burke, Chairman, Superintendent of Schools, City of Boston.

Safety, Lewis E. MacBrayne, Chairman, General Manager, Massachusetts Safety Council.

Red Cross Health Work, Henry Copley Greene, Chairman, Executive Secretary, Health Service, Boston Metropolitan Chapter, American Red Cross.

Tuberculosis, Miss Berenice W. Billings, Chairman, Secretary, Boston Tuberculosis Association.

Mental Hygiene, George M. Kline, M.D., Chairman, Commissioner, Massachusetts Department of Mental Diseases.

Waste Disposal, Joseph A. Rourke, Chairman, Commissioner of Boston Public Works Department.

Ventilation, Joseph B. Howland, M.D., Chairman, Superintendent, Peter Bent Brigham Hospital.

Moving Pictures, Prof. C. E. Turner, Chairman, Assistant Professor, Biology and Public Health, Mass. Institute of Technology.

Industrial Hygiene, Wade Wright, M.D., Chairman, Instructor of Industrial Medicine, Harvard Medical School.

Public Health Nursing, Miss Sophie Nelson, Chairman, Director, Nursing Service, Boston Health League.

Nutrition, Miss Elizabeth W. Schermerhorn, Chairman, Secretary Women's Educational and Industrial Union.

Milk, James O. Jordan, Chairman, Inspector of Milk, Boston Health Department.

Foods, Hermann C. Lythgoe, Chairman, Director of Division of Foods and Drugs, Massachusetts Department of Public Health.

Oral Hygiene, Charles DeW. Cross, D.M.D., Chairman, Director, Forsyth Dental Infirmary.

Prevention of Deafness, D. Harold Walker, M.D., Chairman, Chief Surgeon, Massachusetts Charitable Eye and Ear Infirmary.

Social Hygiene, J. D. Barney, M.D., Chairman, Urologist, Mass. General Hospital.

Prevention of Cancer, Robert B. Greenough, M.D., Chairman, Director of Cancer Commission, Harvard University.

Prevention of Heart Disease, Paul D. White, M.D., Chairman, Chief Director of Cardiac Clinics, Massachusetts General Hospital.

Orthopedics, Mark Rogers, M.D., Chairman, Assistant Professor of Orthopedic Surgery, Tufts Medical School.

Scouting, Donald North, Chairman for Boys, Scout Executive, Boston Council of Boy Scouts; Miss Louise Marston, Chairman for Girls, Director, Boston Council of Girl Scouts.

Publicity, Charles E. Bellatty, Chairman, Professor of Advertising, Boston University School of Business Administration.

City Planning, Miss Elizabeth Herlihy, Chairman, Secretary, City Planning Board of Boston.

CLINICAL DEMONSTRATION AT THE PETER BENT BRIGHAM HOSPITAL.

On Wednesdays, during July, there will be held in the amphitheatre of the Peter Bent Brigham Hospital, from 10 to 11 o'clock, a clinical demonstration of diabetic patients, with particular reference to the use of insulin in treatment. All physicians are cordially invited to attend these demonstrations.

CASES REPORTED TO MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH.

WEEK ENDING JUNE 30, 1923.

Disease.	No. of Cases.	Disease.	No. of Cases.
Anterior poliomyelitis	2	Pneumonia, lobar	31
Chicken-pox	115	Scarlet fever	159
Diphtheria	126	Septic sore throat	3
Dog-bite requiring antirabic treatment	13	Suppurative conjunctivitis	10
Encephalitis lethargica	3	Syphilis	36
Epidemic cerebrospinal meningitis	1	Trachoma	1
German measles	13	Tuberculosis, pulmonary	123
Gonorrhea	126	Tuberculosis, other forms	20
Influenza	1	Typhoid	13
Measles	478	Whooping cough	130
Mumps	116		
Ophthalmia neonatorum	11		

SOCIETY MEETINGS.

STATE, INTERSTATE AND NATIONAL SOCIETIES.

July, 1923.—Massachusetts Association of Boards of Health, July 26, Nantasket; W. H. Allen, Mansfield, Mass., Secretary.

October, 1923.—Boston Health Show will be held in Boston, October 6-13, inclusive.

October, 1923.—Meeting of the American Health Association will be held in Boston, October 8-13, inclusive.

For list of Officers of the Massachusetts Medical Society, see page viii of the Advertising Section.